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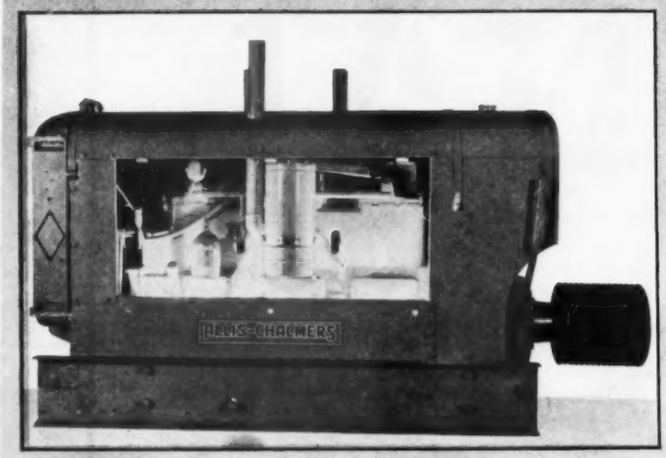

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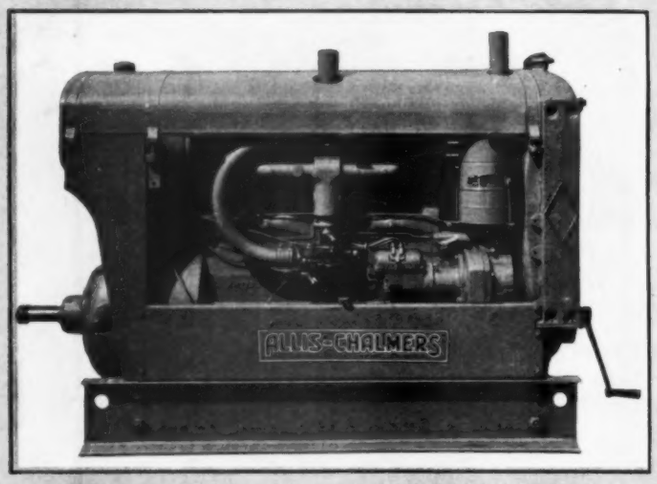

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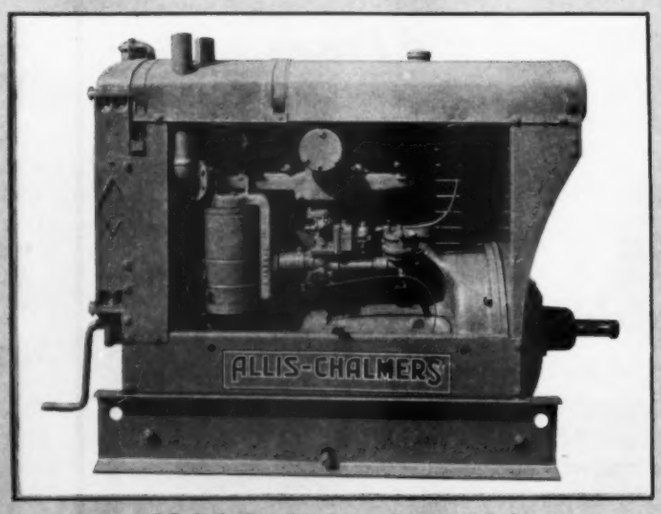

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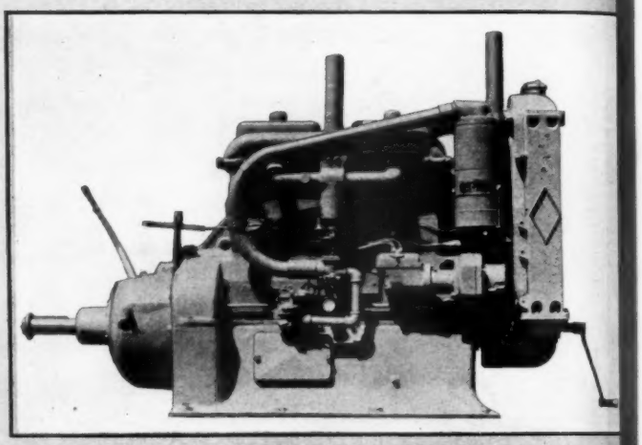

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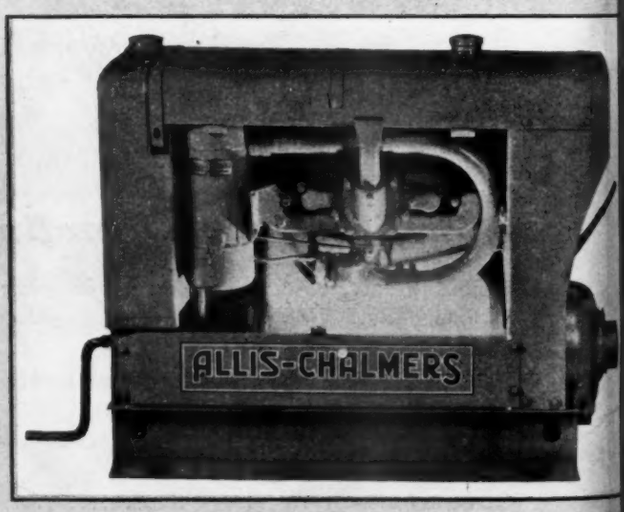

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Increases in Gasoline and Crude Stocks

CRUDE-OIL producers for the fourth consecutive week continued to maintain a national production in excess of 3,100,000 barrels daily, the largest of record for a similar period. This output is approximately 50,000 barrels daily higher than during August, the peak demand period of the summer months, and 235,000 barrels daily higher than in January of last year.

Developments since the first of the year and the late December reports of the Bureau of Mines indicate that this output is in excess of current requirements, and it is now being predicted that February will bring decreases in allowables for the principal oil-producing states. The bureau's report for December 26 shows an increase in crude stocks for the second successive week. For the two-week period, crude stocks increased 155,000 barrels in North Louisiana and Arkansas, 242,000 barrels in the Rocky Mountain area, 421,000 barrels in California, 98,000 barrels in foreign crude in domestic tanks and 1,193,000 barrels in what is termed "other Mid-Continent." The later area, which is composed principally of Oklahoma and Kansas, has about 40 per cent of the total stocks of refinable crude in this country with a steady withdrawal under way over the past few years. These increases were offset in part by decreases in other areas, so that the total gain for the two weeks was 608,000 barrels.

This government report and other information available since the first of the year show that crude supplies are more readily obtainable in the Mid-Continent than they were in November and early December. This is due to both an increased supply and reduced demand. There is no concern in regard to the additions to the crude inventories, the oil going to companies which are willing to make moderate increases in their inventories due to withdrawals the latter part of 1936 and the expected heavy demands later this year.

Production 3,107,402
Decrease 7,107

Some observers believe the heavy production and stock increases have a bearing on the present crude price situation which remains the same as it was on January 4 when the Continental Oil Company made its higher schedules effective in the Mid-Continent and the Rocky Mountain fields.

Stormy weather over a large part of the area served by the Mid-Continent and a gain of 1,788,000 barrels in national gasoline inventories for the week ending January 2 along with the crude stock increases are bringing demands that crude production and refinery operations be curtailed in line with seasonal developments. In the meanwhile the refinery markets generally are firm, with kerosene and some grades of fuels scarce and prices higher. The marine demand for diesel fuel oils is particularly strong and prices were advanced 15 cents per barrel at the Gulf and 20 cents at Atlantic seaboard points.

Daily Average Production for Week

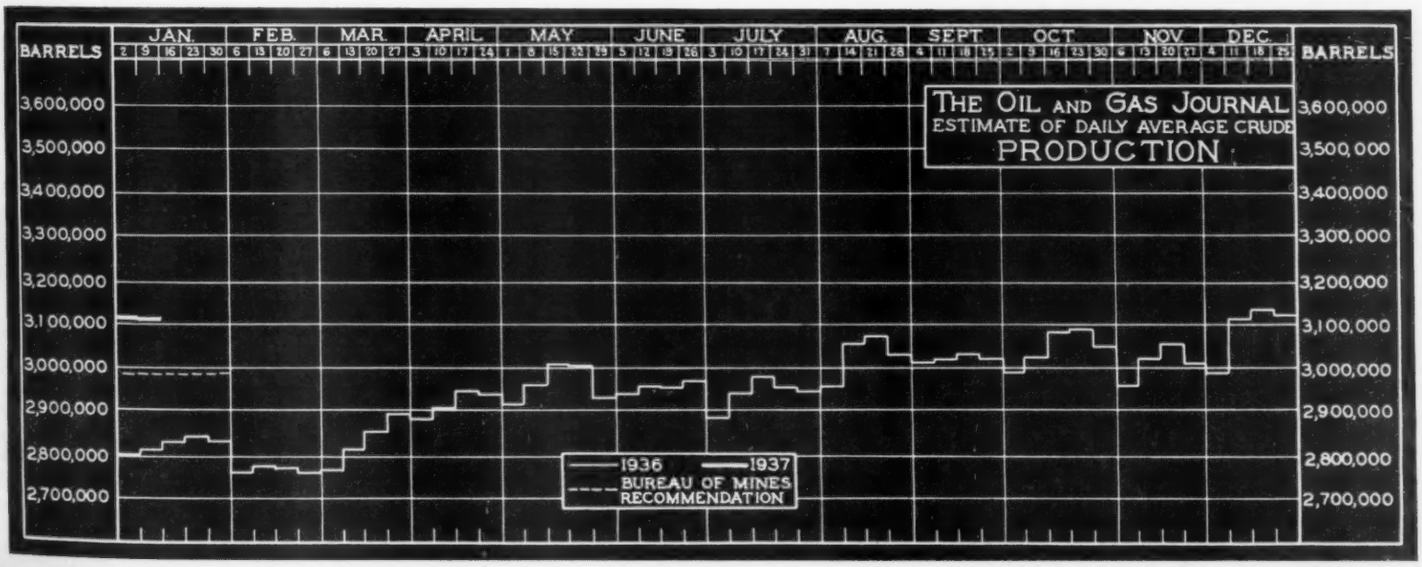
	Jan. 9 1937	Bur. Mines Jan. est.	Jan. state allowable	Jan. 2, 1937
Oklahoma City	135,650	.....	.....	137,700
Seminole-St. Louis	87,700	.....	.....	90,650
Remainder of State	336,775	.....	.....	351,550
Total Oklahoma	560,125	573,100	573,100	579,900
East Texas	452,200	.....	.....	451,100
West Texas	170,448	.....	.....	167,350
North Central Texas	97,983	.....	.....	96,544
Texas Panhandle	56,397	.....	.....	67,448
East Central Texas	96,097	.....	.....	95,549
Gulf Coast—Texas	272,712	.....	.....	261,750
Southwest Texas	89,449	.....	.....	88,597
Total Texas	1,235,286	1,176,000	1,248,907	1,228,338
North Louisiana	75,400	.....	.....	80,860
Gulf Coast—Louisiana	164,327	.....	.....	161,350
Total Louisiana	239,727	216,300	240,650	242,210
Santa Fe Springs	44,750	.....	.....	43,000
Long Beach	64,350	.....	.....	64,000
Kettleman Hills	74,750	.....	.....	77,100
Remainder of State	414,650	.....	.....	398,900
Total California	598,500	559,900	*551,000	583,000
Kansas	156,225	165,600	175,880	165,850
Arkansas	27,545	27,300	.....	28,355
Eastern Fields	117,000	112,200	.....	113,000
Michigan	29,474	29,200	.....	27,586
Southeastern New Mexico	79,170	79,180	91,755	81,810
Rocky Mountain area	64,350	59,620	.....	64,460
Total United States	3,107,402	2,998,400	.....	3,114,509

*Recommendation of Central Committee of California Oil Producers.

Crude Oil Stocks in United States

(BUREAU OF MINES ESTIMATES)

Week ending December 26, 1936	288,517,000
Week ending December 19, 1936	288,184,000
Week ending December 28, 1935	314,721,000



SPARKS FROM THE NEWS

Proving Ground

Fleet of trucks, each carrying 8 tons of sand, racing night and day over California deserts and mountains testing gasolines is another practical demonstration of the industry's efforts to improve products.

Miracle

Congress has been under way one week and the oil business is still not on the defensive.

Bi-State

Cass County operators making mighty effort to have industry think of Texas rather than Louisiana when Rodessa is mentioned.

Conservation

California, not so fortunate in finding new crude reserves, will conserve its supplies by expanding its refinery cracking facilities.

Variable

Current explanations and prophecies regarding the crude situation are like the weather. They change daily.

Pluck

A wildcat well drilling away when everything else in a snow-covered area is hibernating is one of the reasons the oil business is what it is.

Warm-up

Government production reports indicate that refiners have 100,000 more burner-oil customers than they had a year ago.

Consistency?

Forced to leave their cars in garages due to weather conditions some refinery employes rushed to work last week in order that plants might continue gasoline output at summer peak.

Evidence

A motorist leaving a station with a dirty windshield and soft tires under the "Iowa plan" realizes the operation has gone independent in more ways than one.

Comparison

The increased horsepower of 1936 cars made possible by high-octane gasolines was 50 times greater than that which will be obtained from Boulder Dam.

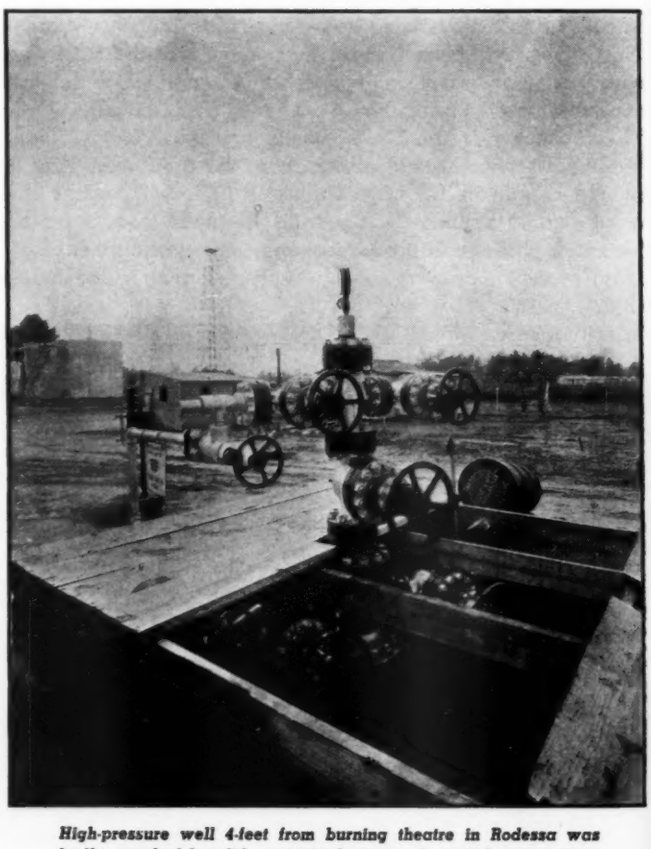
Contrast

Latest report on retail gasoline prices in major cities in cents per gallon: Shanghai, 29.2; Berlin, 53.4; Paris, 40.6; Tokyo, 16.9; London, 30.6; New York, 17.

Correction

Additions to stocks for two successive weeks ends the delusion that it was impossible to produce more crude than was currently needed.

DEFIED THE FLAMES



High-pressure well 4-feet from burning theatre in Rodessa was badly scorched but did not ignite because of gas-tight connections

No Legislation Directed at Oil Industry as Congress Opens

By HENRY D. RALPH

WASHINGTON, D. C., Jan. 11.—With a warning from President Roosevelt to continue the New Deal program of economic reform but not to rush toward a constitutional amendment, the Seventy-fifth Congress began this week what will be a long and eventful session.

Specifically there was nothing in the president's message and the first few days of the new session which should cause alarm in the oil industry. No bills have been introduced which would indicate that the administration has some special program for the industry apart from a general policy applying to business generally.

Senator Connally of Texas has announced that he will introduce a bill to extend his "hot" oil act which expires in June of this year. This was expected and the extension will have the support of the oil industry generally. It is understood that a bill to extend the Interstate Oil Compact which expires in September will also be introduced in the near future. This also comes under the class of wanted legislation on the part of a majority of the industry.

It has been indicated that Senator Thomas of Oklahoma will introduce legislation sponsored by groups which seek to further the interests of the domestic industry. The principal feature of this legislation will be restriction of the importation of crude and refinery products to a definite relationship to domestic requirements with higher duties on certain products than now prevail.

RAYBURN'S LEADERSHIP

To be listed with developments which may have direct bearing in oil legislation is the election of Congressman Sam Rayburn as floor leader on the Democratic majority of the House. Congressman Rayburn, who comes from the Fourth District of Texas, was chairman of the Committee on Interstate and Foreign Commerce, whose subcommittee, the "Cole Committee," conducted the investigation of the petroleum industry in 1935. He is credited with having a thorough knowledge of the industry's problems and in the past has not been sympathetic toward the efforts to extend federal control. Congressman Rayburn was chairman of the committee in 1933 which made an investigation and exhaustive report on oil pipe lines.

In spite of an inferential and back-handed criticism of the Supreme Court, the president's annual message was mild and conservative in tone in comparison with some of his earlier messages. It is apparent he is striving to make his second administration what columnists are calling "an era of good feeling." His insistence that the judiciary should meet the demands of democracy by interpreting the constitution to permit needed social legislation, while perhaps shocking to some conservatives, fell considerably short of what seems to be the prevalent feeling in Congress that the constitution needs immediate amendment to permit fulfillment of the New Deal.

On the other hand, those who may have hoped that economic reform legislation would end with business recovery got little satisfaction from the message, for President Roosevelt laid down the thesis that the test of true democracy is its ability to provide legislation assisting its citizens to improve their conditions of life. While earlier New Deal legislation was predicated on the need for promoting business recovery and preventing further depression, in the future economic reforms are to be justified as fulfilling what President Roosevelt describes as the deeper purpose of democratic government—"the deliberate improvement in the personal security and opportunity of the great mass of our people."

The further economic reforms desired by the president were sketched in only general terms and include better housing for slum dwellers, government assistance to tenant farmers, a broadening of the social security program, and the elimination of fluctuations in prices and employment through control of speculation, overproduction, and underproduction.

Between the lines of the message, however, may be read an assurance that the administration will be less hasty in seeking new legislation, is less ready to experiment with new ideas of government, and will prefer to have Congress exercise its legislative discretion more than it has during the past four years.

Now that recovery is at hand, the goal of the administration is economic stability, and all reform measurers are to be drafted with this end in view. The first Roosevelt administration was characterized by the slogan of the "three R's"—relief, recovery, and reform—but from now on we will hear much of the phrase, economic stability.

The probable effect of President Roosevelt's little lecture to the judiciary is a matter of much speculation. The next few months will reveal whether or not the Supreme Court has any disposition to find constitutional justification for the several important New Deal laws which will soon come before it. If not, Congress will be all too ready to submit to the states an amendment or series of amendments to the constitution giving the federal government greater power to regulate business, labor and agriculture. In fact, many high administration leaders in Congress were somewhat disappointed at the president's declaration that he believes the present constitution adequate for modern social problems, and several of them are going ahead with their own plans for pushing a constitutional amendment. Certain it is that a constitutional amendment will be lurking in the background throughout this session of Congress.

BUDGET

The budget submitted to Congress by President Roosevelt for the fiscal year ending in June, 1938, shows a cash or paper balance, the first of this sort to be presented since the depression began.

It is not a completely balanced budget in the accounting sense, since it makes no provision for the full amount of debt retirement required by statutory formula of long standing. This budget will not remain in balance unless relief expenditures for the coming year are kept within the $1,500,000,000 figure suggested by the president nor if Congress authorizes new programs involving expenditures, such as aid for tenant farmers and slum dwellers, without at the same time providing additional revenue or making compensatory savings elsewhere. Nevertheless, the prospect of even an approximate balance, together with the assurance that the 1939 fiscal year will show a treasury surplus, was received by the country as indicating an end to deficit financing with its attendant dangers to business.

TAXES

From the general business standpoint, the most significant feature of the budget is the fact that the balance is achieved through high taxation rather than government economy. The estimates for expenditures by regular government departments are slightly larger for next year than during the current year, and many emergency activities are to be continued for a while longer. Apparently we are to have an annual budget of $7,000,000,000 or more for a long time to come, probably permanently, as President Roosevelt pointed out that the nation has come to expect more and more of its government.

Total receipts for the 1938 fiscal year are estimated at $7,293,000,000, which is 25 per cent greater than this year and 77 per cent over the government's income last year. This figure includes nearly $500,000,000 in excise taxes which will expire next June unless Congress extends them in accordance with the president's request. Moreover, the president cautioned Congress against any reduction in taxes at this time, pointing to the need for maintaining the government's revenue at its present rate in order to finance existing activities and provide something for debt retirement after next year.

This squelches all hope there may have been for reduction in taxes during this Congress. Probably the only tax legislation will be a bill to continue the expiring excise taxes. There may be some modifications in the capital gains tax and in the new tax on undistributed corporation earnings without sacrificing the principle of either.

OIL TAXES

The federal tax on gasoline and lubricating oils undoubtedly will be continued as the president requested. The president made no suggestion as to how long these taxes should be continued, but prevailing sentiment in Congress is for another two years. There will be pressure, of course, for elimination or reduction of the gasoline and lubricating oil taxes, as will be the case with the rest of the expiring excise taxes, but present indications are that Congress will continue them unchanged. The lubricating oils tax is estimated to yield $31,360,000 in 1938 and the gasoline tax $190,180,000. In the same class is the tax on the transportation of oil by pipe line, which is estimated to yield $10,220,000. The regulatory tax on processing of crude petroleum, which yields about $1,000,000 per year, does not expire in June. Other expiring taxes which will probably be continued include those on electrical energy, automobiles, trucks and parts, and on telephone and telegraph messages.

NEUTRALITY

The first task taken up by the new Congress was the problem of shipment of arms to Spain, which was met by extending the terms of the present temporary neutrality act to both parties to the civil war in that country. This measure does not affect exports of oil, but before the present law expires May 1 Congress must enact new and permanent neutrality legislation, and this is bound to involve exports of oil and other basic commodities. Congress is undoubtedly in the mood to enact stringent neutrality legislation to curb exports of goods and extensions of credit to belligerant nations. On the theory that trading with warring nations will ultimately involve the United States in war, the new legislation will place severe restrictions on American trade with belligerants. The definition of munitions may be enlarged to include such important commodities as oil and prohibit their export to belligerants under any conditions, but even if this is not done the law will prevent sales of ordinary goods to belligerants except on a cash and carry basis.

BUSINESS CONTROL

New plans for federal regulation of business, particularly to give control over labor conditions, will be before Congress throughout the session. Already a number of such have found their way into bills. Whatever plans President Roosevelt may have on the subject he has not yet disclosed, but several of his close advisors are studying the subject earnestly.

A coordinated program of state and federal legislation is one possibility, brought to the front by a suggestion in the president's message to Congress which followed immediately after the Supreme Court's decision upholding the federal prison-made goods law. This law prohibits the shipment of prison-made goods into states which have laws regulating the sale of such goods, and the Supreme Court declared that it is proper for the federal government to assist the states to enforce laws which the states themselves have power to enact regarding conditions within their own borders.

This suggestion was immediately seized upon in several quarters as a way of securing business and labor legislation, in spite of the fact that the states themselves are limited in this field, as shown when the Supreme Court recently held invalid the New York state minimum wage law. Probably the first legislation of this type to be enacted will be the Tydings-Miller fair trade bill, which will legalize contracts made in interstate commerce fixing resale prices of trade-marked goods in states which have fair trade laws. Since the Supreme Court has upheld such state laws and some 15 states have already enacted them, there will probably be little opposition to the Tydings-Miller bill. Its passage is expected to stimulate enactment of price maintenance laws in many other states.

Another approach to the problem is through amendments to the antitrust laws. This is now under active discussion in two quarters, the Council for Industrial Progress (Major Berry's conference) and a group of trade association executives in cooperation with Assistant Secretary Draper of the commerce department and a number of other administration officials. In general, this plan contemplates a rewriting of the antitrust laws to give a better definition to their basic prohibitions against monopolies, restraint of trade, and unfair competition, and permitting some federal agency, probably the Federal Trade Commission, to interpret the terms of the law as applied to individual situations and the problems of particular industries. This plan also contemplates permitting industries to submit "codes" of fair practices which would be approved or disapproved by the enforcing agency. In addition to trade practices, these industry agreements would include labor provisions such as prohibition of child labor, minimum wages, and maximum working hours. This would not be a return to the NRA, since industry groups would have no power to make or enforce the laws applying to them but would simply advise the government commission as to what constitutes unfair competition in their industries.

PATMAN ACT

No amendments to the Robinson-Patman price discrimination law will be enacted at this session, it is insisted by Representative Wright Patman and others who sponsored this law in the last Congress. Their belief is that the law should be given a further test in actual application before any changes are contemplated, and they fear that amendments at this time might weaken or destroy the law. Representative Patman will work for new legislation to restrict retail distributing by manufacturers. This bill, of course, will vitally affect the oil industry in so far as major companies have not already disposed of their retail outlets under the Iowa plan or otherwise. In discussing his proposed bill during the summer and fall, Representative Patman had in mind a drastic measure flatly prohibiting manufacturers from retailing and retailers from manufacturing, but he is now drafting a more moderate measure which would give the Federal Trade Commission the power, after investigation and hearings, to order a manufacturer to divest himself of retailing activities where it was found that these had a tendency to lead to monopoly or injure competition with independent retailers.

ABANDONED AT 11,147 FEET

LOS ANGELES, Calif.—"Finis" was written this week to one of the greatest drilling operations in search for oil when a Kettleman Hills field crew flashed the message to Union Oil Co. headquarters in Los Angeles, "NKO&G No. 1 well abandoned today."

The well originally was begun by Ed McAdams for North Kettleman Oil & Gas Co. on April 12, 1932, and was known as the Lillis-Welsh well. Mr. McAdams carried it to 10,944 feet, found a small quantity of oil, decided to go deeper—and then trouble began in earnest. Drillers overcome one obstacle after another, only to find still other setbacks ahead. Finally, after two years of labor, the McAdams crews concluded their efforts on the well and Union Oil Co. took over the project on April 11, 1934, renaming it NKO&G No. 1.

N.K.O.&G. No. 1

Union's drilling crews during the ensuing two years encountered the same set-backs that had overcome their predecessors. After a series of drill pipe breakages, plug backs and redrills, the crew removed the original 7-inch casing, resumed work from the end of the 11¾-inch casing at 6,710 feet and eventually drilled to 11,147 feet. No production was found at the lower levels.

Union's field crew recovered 15,221 feet of casing of various sizes; in the hole still remains 12,470 feet of casing.

Basin Possibilities Indicated by Recent Kansas Completions

By L. G. E. BIGNELL

Santa Claus in the form of lease brokers and land men visited farmers of border counties along the western Kansas-Oklahoma state line leasing thousands of acres of land and paying from 50 cents to as high as $10.00 per acre bonus. This bonus was of great assistance to many farmers who had suffered crop failures because of the drouth last summer.

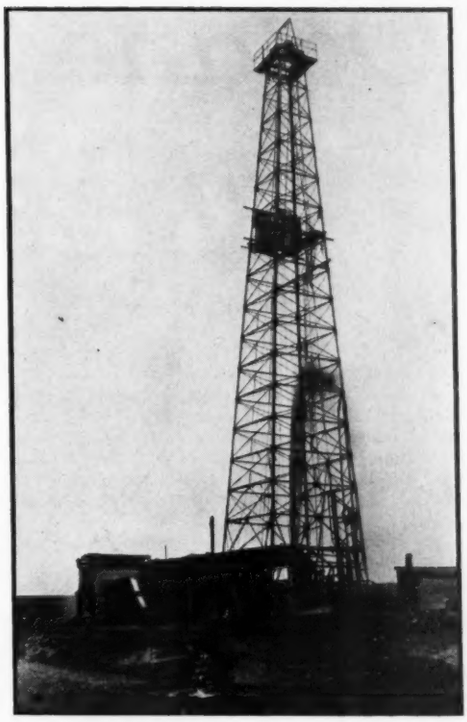
This activity in leasing was largely due to the finding of oil early in November by the Olson Oil Co. and others in No. 3 Morrison C SE SW section 17-32-21w in Clark County, Kansas, near the little town of Ashland. In this well the top of the Viola lime of Ordovician age was found at 6,478 feet and drilled to 6,481 feet. After treating with 3,000 gallons of acid this well made a flow of 622 bbls. of 40.8 gravity oil at 60 degrees in six hours and was given a potential of 2,358 bbls. per 24 hours. A 4-inch pipe line is being laid to the town of Sitka on the Santa Fe railway about 6½ miles southwest of the field where a 7-car loading rack is being constructed. The oil will be pumped into the line at the lease but will gravitate to the terminal.

This discovery is of much importance because it indicates the possibility of finding Ordovician producing formations in southern Kansas and northern Oklahoma. This possibility is borne out by the very active leasing campaign now in progress in Clark, Barber, Comanche, Meade and Seward counties in southern Kansas and in Harper County, Oklahoma, the county just across the Kansas-Oklahoma state line from Clark County. Interest has also been manifest in acquiring leases in adjacent counties of Grant, Alfalfa, Woodward, Woods, Major, Ellis and Beaver counties in northwestern Oklahoma.

PREVIOUS DRILLING

The Dodge City Basin exists in the southwestern corner of Kansas and in the northwestern part of Oklahoma, in that vast area lying between the Barton Arch of northwestern Kansas and the Wichita Mountains of Oklahoma and Texas. The second largest gas area in the world is located near the town of Hugoton in Morton and Stevens counties.

The first drilling for oil in Clark County was carried on in 1923 and several wildcats have been drilled in that county since and the Watchorn Oil & Gas Co. found 20,000,000 feet of gas in No. 1 Morrison in Mississippi lime at 5,679 feet. Gas was also found in No. 1 Stephens C NW NW section 21-32-21w and the well later deepened to 6,801 feet and as it was dry at that depth was abandoned in 1935. The Whelan pool of Barber County is about 60 miles east of the discovery well in Clark County and is the nearest production.



MAKING A FLOW—*Olson Oil Co. No. 3 Morrison in eastern Clark County, Kansas*

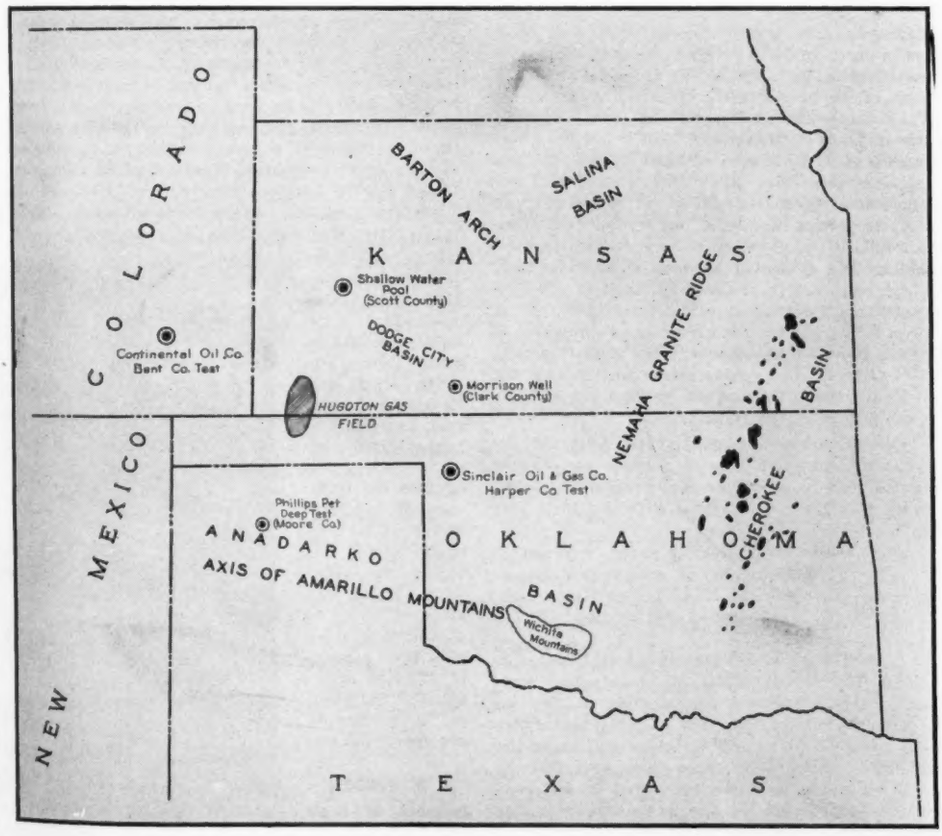
Finding oil in the Viola lime of Ordovician age in No. 1 Morrison well confirms the opinion held by many geologists for some time, that somewhere in the region south of the Barton Arch in northern Kansas and the buried Wichita Mountains of the Texas Panhandle there exists a basin around the edge of which there should be found producing formations of pre-Pennsylvanian age. This basin theory was partly proved some time ago when a well in Harper County, Oklahoma, located in the C SW SW section 14-26-24w, found the Chester lime of Mississippian age at a depth of 6,960 feet (top) and drilled in this formation 1,430 feet or to 8,390 feet. The hole was drilled to a total depth of 8,590 feet and then plugged back first to 6,687-6,737 feet where there was a gas showing but this did not test satisfactorily and the well was then again plugged to 5,350-5,400 feet where it made 11,000,000 feet of gas from which 65 bbls. of distillate was extracted in the oil and gas separators.

One test that has aided in the development of the theory that a basin exists in the area between the Arbuckle Mountains and the Barton Arch was drilled by Phillips Petroleum Co. in Moore County, Texas Panhandle last year in which the top of the Ordovician (Simpson) sand was found at 7,203 feet and all sand was drilled to 7,295 feet. Sand and Dolomite was encountered from 7,422 to 7,505 feet and the top of the Arbuckle lime was found at 7,505 feet. Total depth 8,012 feet.

The Continental Oil Co. drilled No. 1 Pipe Springs wildcat in Bent County, Colorado, some time ago and found the top of the Ordovician at 5,825 feet and the top of the Simpson sandstone at 5,895 feet. This wildcat did not have as good a showing of Simpson sand as did he test in Moore County, Texas.

West of these tests along the Sierra Grande-Las Animas Arch in northeastern New Mexico and eastern Colorado Permian or late Pennsyl-

(Continued on Page 28)



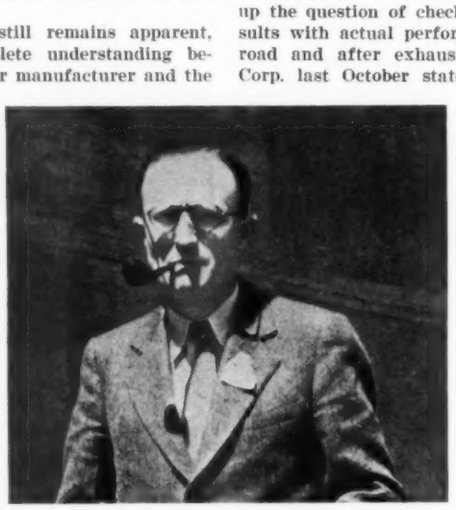
Regional map of part of Mid-Continent area showing major structural features

Octane Value of Fuels and ...

Share Interest at S. A. E. ...

DETROIT, Mich.—No group outside the oil business has exerted a greater influence upon motor fuel characteristics than automotive engineers and in the annual meeting of the Society of Automotive Engineers being held here this week, more than the usual amount of attention is being given to that subject. Diesel fuels and high octane gasolines have shared equally in the discussion and papers presented.

In this discussion it still remains apparent, however, that an incomplete understanding between the automobile motor manufacturer and the oil refiner remains. Each would like to go his way with respect to lessening manufacturing costs but obviously this cannot be done.



J. B. HILL
Chairman, Fuels and Lubricants

Stated briefly, the automotive engineer seeks a clear path to alter the compression ratio, timing and fuel requirements of the motor from year to year, assuming the refiner will alter his methods of manufacturing gasoline to fill the needs. The refiner, on the other hand, stresses the need to hold motor fuel characteristics somewhat uniform and is particularly anxious to avoid manufacturing motor fuels of greatly increased octane value since this involves the addition of new and more expensive equipment.

He has been anxious to avoid a resumption of the "octane race" through the process whereby one or two automobile manufacturers would design cars demanding gasoline of unusually high octane value to find all gasoline raised to that level. To meet the requirements of these cars the refiners have continuously raised their motor fuel quality, year after year until now the average of the regular grade stands near 70 octane number.

The automotive engineer could utilize a motor fuel of 100 octane value and would build engines to demand this type of fuel if the refiner was ready to supply it at the same price. As the squeeze tightens, it is only natural that the issue be raised as to whether the automotive engineer builds the car to fit the fuel available or the refiner changes his methods to produce a motor fuel to meet car requirements. It is agreed that each group recognize the desires and cost limitations of the other but, within the past year, settlement of the issue has been clouded somewhat by the fact that certain refiners are ever willing to boost the octane value of their gasoline to gain gallonage whenever the demand is apparent but prices are not increased proportionately. As soon as one refiner undertook to supply a gasoline of this quality the other refiners felt duty-bound to do likewise. As a result, most gasoline rates pretty close to the 70 octane maximum which is specified by Ethyl Gasoline Corp. for the best middle grade gasoline to be marketed as "Q" gasoline by its licensees.

This crowding of octane number characteristics at the 70 mark caused automotive manufacturers this year to design cars to use gasoline of pretty near that quality and since the designers have tried to take full advantage of the motor fuel available, they have allowed comparatively little leeway to burn fuels much under 70 octane.

It has also been recognized that a 70-octane gasoline made by some refiners will knock in a given car while a 70-octane gasoline supplied by other refiners will not knock. This has brought up the question of checking laboratory engine results with actual performance of the cars on the road and after exhaustive tests Ethyl Gasoline Corp. last October stated it would suggest that refiners adopt an alternate test procedure at some time in the future.

On January 8 the cooperative fuel research committee met here in Detroit to study data presented in support and in opposition to the suggested change in the test procedure and little has resulted to actually remove the issue. In presenting data on the subject before the Society of Automotive Engineers the problem of correlating results was discussed with respect to developing a test that would recognize the influence of altitude. Also W. M. Holaday and G. T. Moore of the Standard Oil Co. (Indiana) had this to say before the meeting of the fuels and lubricants division of the society, held under the chairmanship of T. B. Rendel of Shell Petroleum Corp.

"Experience with the C.F.R. engine and test method has shown that it is not sufficiently accurate to permit the use of one sample to indicate the reliability of correlation between two or more engines. The deviation between engines operated at high altitudes from those operated at sea level is very small for most commercial fuels. It is, therefore necessary to exchange a number of samples in order to determine the deviation with reasonable certainty. It is recommended that the following work be carried out by those laboratories located at high altitudes.

"The proposed test method be used by the several altitude laboratories for an appreciable period of time to acquaint the operators with the test method, and to correlate with sea level procedure for commercial fuels.

Among the many interesting papers read before the technical session, one of outstanding importance was "Influence of Humidity on Knock Ratings," by J. R. MacGregor of the Standard Oil Co. of California.

Mr. MacGregor called attention to the necessity of controlling the humidity of knock-rating tests in order that consistent, reproducible results can be obtained; pointing out that with the best available control of all known variables and using the bracketing system of reference fuels, variations in results on the same fuel—but tested in different laboratories, or even in the same laboratory at different times—continue to attract attention. In general, he stated, this difference has been most pronounced when rating fuels of widely different characteristics, and indicated the influence of some atmospheric variable on the combustion of the fuel.

In describing the test procedure and results he states that two or more of the following fuel types were used in each of the tests: Straightrun, benzol-straightrun blend, cracked, leaded straightrun and octane-heptane blend. It was noted that the straightrun, the cracked, and the benzol blend showed a similar response to changes in absolute humidity, whereas the heptane-octane blend and the leaded straightrun blend were at marked variance to the other fuels.

Tests to determine if detonation was influenced by a given change in dry air pressure, whether that change was caused by a variation in either barometric or water vapor pressure, and covering a range of barometric pressure were also described by the author. Tests were made using the same types of fuels as employed in the humidity tests and variations in knock intensity were determined by means of a knock meter. He noted that the leaded reference fuel was least effected, the benzol blend moderately affected, while the straightrun, the cracked and octane-heptane blends responded most to changes in intake air pressure.

In summarizing his paper, Mr. MacGregor stated "that for refinery control it is possible that some normal gasolines bracketed with straightrun reference fuels, providing the same are calibrated under standard humidity conditions, no great error will result with the humidity varying over the normal range. However, with the increase in use of special type fuels, for reference fuel calibration and especially for fuels containing tetraethyl lead, some form of humidity control is required. The exact humidity to be used as standard has not yet been determined, but satisfactory reasons appear for choosing .0135 pound of water per pound of dry air and its adoption as standard in all knock rating tests is hereby suggested."

In the discussion which followed the presentation of Mr. MacGregor's paper, representatives of other companies indicated that they agreed that a standard of humidity should be established.

Mr. Earl Bartholomew of Ethyl Gasoline Corp reported that his company had recognized the influence of humidity and that its laboratories had perfected an apparatus which enabled them to standardize the moisture content of the air entering the carburetor. A picture of the apparatus was

T. B. RENDELL
Presided at Fuels and Lubricants opening session

Knock Testing Meeting

By W. T. ZIEGENHAIN

AIRSHIP HIS TOPIC
—Dr. Hugo Eckener, Zeppelin commander, guest speaker

shown as it may be applied to the standard testing machine.

Dr. Ulrich Bray of the Union Oil Co. of California said the equivalent of 30 octane numbers was represented in the range of spark timing adjustment possible on many cars. He also pointed out that in order to study the problem of supplying the correct octane motor fuel, the individual car engine would have to be studied and the recommendation based on conditions found in that engine. He said that a car driven 10,000 miles might have lost compression to the extent that it could use a fuel several points lower in octane value than when it was new. Another car of the same make and driven the same distance might have been better lubricated to eliminate ring wear, but due to its having accumulated carbon in the combustion chamber, might need a fuel 5 to 10 points higher in octane value than required when the car was new, he said. This statement apparently opened up the discussion of motor fuel testing from all angles and refinery technologists who took part in the discussion were accused of making the automotive engineers "dizzy" with data. Dr. A. E. Becker of the Standard Oil Development Co. defended the ideas presented by oil researchers in testing for antiknock value, stating that it might be advisable to turn to a new avenue of approach for a solution. He suggested that thought be given to resuming the study of the effect of chemical composition of the motor fuels and he suggested also that more data be derived to reveal more about the autoignition properties of fuels.

NEIL MACCOULL
Spoke on "Effect of Knock Intensity on Fuel Knock Ratings"

Dr. J. B. Hill of the Sun Oil Co. agreed that this should be undertaken as a group problem or be undertaken by large individual companies.

Neil MacCoull of the Texas Co. terminated the discussion regarding testing discrepancies as presented by representatives of oil companies by calling attention to differences in results due to varying the knock intensity. He suggested using a modified bouncing pin when making the laboratory tests, and he was able to show differences of about one octane number for a change in the standard compression ratio of only plus or minus .2 unit from standard.

He reported that the committee on fuel research had recognized this discrepancy and had modified its program of research to yield concordant results.

While the representatives of the oil-refining industry seemed to agree that the ordinary laboratory testing method used for evaluating motor fuels was inadequate, they did not stand alone on this subject, for John W. Campbell of General Motors Corp. reported equally enlightening differences when testing gasolines under varying laboratory and road conditions.

In discussing "Factors Affecting Relative Knocking Characterisics of Motor Fuels in Service," by Mr. Campbell, Wheeler G. Lovell and T. A. Boyd, all of General Motors, Mr. Campbell explained how, with different standard fuels and with different standard engine conditions, the fuels which now appear to "depreciate" would then appear to "appreciate." The terms "appreciate" and "depreciate" were used to express, he explained, the idea that a certain fuel appears better or worse in service than some standard fuel which it matched in the laboratory test engine. One statement made pertaining to this subject was: "It is obvious at the outset that the method of rating fuels for knock, or determining their relative antiknock values, depends largely upon the use to which they are to be put."

Engine speed was one factor discussed and some actual tests were described which indicated that the apparent "depreciation" that is observed with a particular combination of reference fuels and test fuels may be controlled by suitable control of the engine speed at which the fuels knock. The authors have obtained some data which show how the apparent rating of a cracked gasoline may be changed in a given car engine by changing the speed for maximum knock through alternations in the automatic spark timing. The authors also found, Mr. Campbell explained, a greater rate of change in the compression ratio for borderline knock with the reference fuels than with the cracked gasoline.

Mixture ratio was another factor pointed out which may affect the apparent depreciation of fuels in cars. In one test an apparent "depreciation" of 5.5 octane numbers was brought about merely by changing the mixture ratio from 14:1 to 11:1, he said.

In addition to variations in knocking characteristics among different fuels caused by differences in chemical composition, evidence was presented that in certain cases the volatility factor may contribute in a considerable degree to the knocking characteristics of a fuel in a passenger car engine on the road. The authors believed that this effect of volatility is particularly applicable to what hitherto has been considered the anomalous behavior of benzol blends as a result of which benzol blends almost invariably appear better in road tests than is indicated by the laboratory knock rating.

Two sessions of the meeting were devoted to papers on diesel engines and fuels, several interesting papers being read before the attending engineers. Papers presented in these sessions were "Correction of Diesel Engine Performance for Changes in Atmospheric Conditions," by C. F. Taylor of Massachusetts Institute of Technology; "Compression-Ignition Engine Performance at Altitude Conditions," by C. S. Moore and J. H. Collins, Jr., of National Advisory Committee for Aeronautics; "Cetane Number, Life Size," by Lieut. Commander R. F. Good, U. S. Engineering Experiment Station; and "Diesel Engines in Trucks," by B. B. Bachman of Autocar Co.

Apparently gasoline engines are not the only ones to present performance problems under varying road conditions, for Professor Taylor indicated that too great a variation of design still existed among various manufacturers to permit a close correlation of laboratory testing and road performance results.

Mr. Bachman, in pointing out the factors which he believed must be taken into consideration in determining the relative merits of diesel and gasoline engines stated that the most important items were fuel and maintenance.

J. R. MACGREGOR
Discussed "Influence of Humidity on Knock Ratings"

Company-Controlled Station Is Vanishing Under Iowa Plan

By T. F. SMILEY

Company-owned or -controlled service stations have been vanishing rapidly from the marketing scene in the last half-year as one oil organization after another has widened its application of the Iowa plan. A survey of results issuing from abandonment of long-established methods of retailing discloses that though the new plan has wrought no miracles it has accomplished so much of benefit that neither refiners, jobbers nor dealers evince inclination to go back to the old marginal contract even where that could be done without running afoul of a chain-store tax law.

General adoption of the Iowa plan, called also the dealer marketing plan, began when the Iowa legislature passed a drastic chain-store tax law in June, 1935. The Standard Oil Co. (Indiana), key marketing organization in Iowa, to save its business from ruin by this new tax burden, leased its stations to independent dealers as fast as the details involved could be attended to. Most stations of the Mid-Continent Petroleum Corp. and Sinclair Refining Co. already had been leased out when the law became operative, so only a few changes in the forms of their lease agreements were necessary. Other companies joined in the movement to divorce service stations from their business.

FROM OLD ORDER TO NEW

In the meantime other states were passing or considering chain-store tax laws, and it became obvious that the action taken in Iowa was simply the preliminary step in what would have to be a general policy. Transition from the old order to the new was effected swiftly. Some major marketers, such as the Socony-Vacuum Oil Co., Inc., Standard of Indiana, Standard of Kentucky, Standard of Nebraska and Continental Oil Co., have completed leasing their stations. Others have a few stations on their hands, but are committed definitely to the dealer marketing method of retailing. The Standard of New Jersey reported in the past week that its stations in five more areas had been placed on a dealer basis, leaving Washington D. C., as the only point where it still is conducting retail distribution.

So long as a company owns a substantial number of stations it almost inevitably will have to operate some of them from time to time. It may want to get rid of an unsatisfactory lessee or a dealer may not want to renew his lease, and in the process of changing management the company itself may have to conduct the station temporarily. Some companies say they will continue to keep a few stations in their own hands to serve as models for dealers selling their products.

And how has scrapping of the old retailing methods worked out?

Pretty well, it would seem. To be sure, a few flies flutter in the ointment, but they are not large flies. Even those men in the trade who manifest no enthusiasm over the new regime usually wind up their comments with, "At that it's an improvement." Some who predicted disaster admit frankly now their alarm was groundless. The dealer marketing plan is believed to have removed more troubles than it introduced, and the new problems look less serious than the old.

As dealer operation of retail outlets has spread, the gasoline tank-wagon price structure has exhibited increasing stabilization. Excepting third-grade gasoline (which is drifting steadily into disfavor anyway) and at times the furnace oils (victims of the weather man's whims), the light- and medium-distillate products moved into more and more satisfactory position in 1936 until at the year's close virtually normal markets prevailed. Increased earnings of marketing companies attest the better conditions.

Under the old system of retailing the companies owning or controlling service stations had to shoulder the responsibility of market stabilization. And it is a matter of melancholy history that the market rarely or never was stabilized, for the marginal contract and its dealer discount were a prolific breeder of price-cutting and unprofitable merchandising.

This higher degree of stabilization which has accompanied dealer marketing is pointed to as its most important achievement outside of the fact, of course, that in certain states it has saved oil companies from confiscatory taxation. Another noteworthy advantage lies in the relief experienced by jobbers with respect to price-cutting among their customers.

Under the marginal contract, now becoming an unhappy memory, the jobber handling the house-brand gasoline of a major refiner often found himself in a dilemma resulting from price-cutting on the part of a retailer to whom he sold gasoline. The refiner manufacturing the gasoline would be operating stations of his own in addition to supplying the jobber trade. If a service station operator handling XYZ gasoline purchased from a jobber tried to attract new business by sacrificing part of his dealer discount and selling at a lower price than the one established in his area, then the refiner would hold the jobber responsible for maintenance of the posted pump price. He would tell the jobber forcefully and succinctly that if he wanted to continue handling XYZ refined products he would have to see that the offending dealer was brought into line at once.

But the dealer would tell the jobber to jump in the lake; other service station operators in the neighborhood were cutting prices; he knew a jobber who would supply him with ABC gasoline and mind his own business, and he had been wondering why he didn't give his account to the ABC jobber anyway, for it was a much finer gasoline.

AND THE JOBBER SQUIRMED

Thus the jobber squirmed painfully. He had to extricate himself as best he could. The same sort of situation arises now at times; but as the dealer, not the jobber, is the price-maker, the refiner does not land, with spiked shoes, on the jobber's back. The two work harmoniously to find a solution. Sometimes the price-cutting dealer has a quite satisfactory defense. In that case they cooperate with him in smoothing out his difficulty. Sometimes he is just a natural-born price-cutter. In that case there is little that can be done, but in the end the offender is likely to find he has been digging his own grave.

Although price-cutting service stations have not been eliminated by the Iowa plan, there has been a marked diminution of this evil. Reputable refiners and marketers have come to look on the remaining delinquents as incurables; pests, who, like chiggers and little red ants, must be put up with. In some areas the price-cutter has been eradicated almost entirely. In others, as in the Mid-Continent, where the oil country is dotted with small and often cheaply constructed refineries, it will require something other than an Iowa plan to get rid of him.

It is not difficult to see why the practice of cutting prices has lessened steadily under the Iowa plan until now it is restricted to a relatively small and clearly branded group. Under the old dispensation, with gallonage as its god, the integrated oil company usually encouraged its producing, pipe line and refining divisions to make the biggest records possible and then blandly handed to the tankcar sales manager the job of getting rid of swollen inventories of gasoline in a market already choked with it. The worried sales manager tried to sell at a profit; but profit or no profit, he had to sell.

What happened? To refresh the memory one may turn back to the records and see, for instance, how third-grade motor fuel shipped out of the Group 3 area was sold at the pump in St. Louis, Mo., at 9½ cents a gallon. As freight of 2 cents, dealer's margin of 4 cents and tax of 3½ cents totaled just 9½ cents, the refiner evidently was not content with making a free gift of the gasoline, but actually suffered a loss for the mad joy of scattering sunshine in the lives of others.

TAKES IT FROM HIS OWN POCKET

Under the dealer marketing procedure the tank-wagon price, which is the base for the service station price, keeps in step with the tankcar price. The former temptation to slash the tankcar price to unprofitable levels has lost most of its force. So, generally speaking, if a retail dealer resorts to price-cutting he is taking money out of his own pocket. He no longer has the old-time guaranteed discount which insured him a profit no matter what happened to the refiner or the jobber.

There once was a rather general belief, carefully nurtured, that price-cutting was a sin committed by independent dealers and jobbers only. Few in the trade harbor that delusion now. It is easier to uncover the independent's guilt. He cannot hide it under a maze of bookkeeping figures. It is rumored some large refiners who continue to operate a few retail stations are not above having under-the-canopy understandings with heavy buyers of gasoline, such as those who operate fleets of trucks. After the customer has been billed at the regular posted price and he has sent his check in full payment there is said to be ground for suspicion that in some cases the customer receives a check, payable to cash, apparently in payment of some obligation not clear to the casual observer.

Another form of transaction which fosters price-cutting is that in which a dealer who does a strictly retail business has storage capacity which enables him to buy gasoline in tankcar lots and he is accorded the tankcar price (instead of the tank-wagon price to which he is entitled) by a major refiner. With this advantage over his competitors the dealer gives his motorist patrons secret discounts.

These and other methods of beating the market may be eliminated in time, it is hoped.

An unfortunate feature of the Iowa plan pointed out by companies which took pride in the standards of service which prevailed when they operated their own stations lies in the retrogres-

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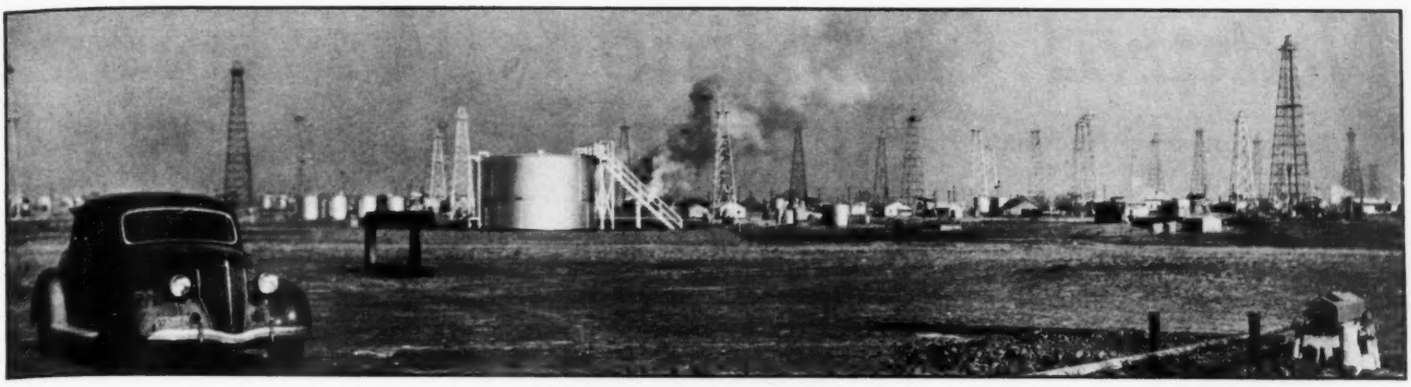

Active section in the Talco field

Estimate Ultimate Recovery at Talco as 105,000,000 Bbls.

By MITCHELL TUCKER

MOUNT PLEASANT, Tex.—An accounting of the Talco field on its first birthday will show that about 190 producing wells have been completed, accumulated production has passed the 1,500,000-bbl. mark, 9,000 acres have been proved for production, and ultimate recovery from proven acreage is estimated in the neighborhood of 105,000,000 bbls. Acknowledgment must also be made at this time of deeper drilling possibilities.

The discovery well, Peveto, Housh & Thompson No. 1 C. M. Carr, Delgado Survey, indicated itself as a producer on February 7, 1936, at a total depth of 4,208 feet in Paluxy sand. It was completed in March, pumping 552 bbls. daily on initial gauge. In June it was deepened to 4,260 feet, still in the Paluxy, and from that depth flowed and pumped 725 bbls. daily. Intensive development of the Talco properties did not begin until after the deepening of this well. Four dry holes were immediately drilled to assist in defining the productive area, and completions since that date have averaged almost one a day up to the present time.

Estimates of ultimate recovery from this field have been found very difficult due to the wide variations in occurrence and percentage of saturation within the Paluxy (uppermost member of Lower Cretaceous), together with irregular variations in the viscosity and gravity of the oil within the sand. There are no other fields producing from sands of Paluxy age on or around the Sabine Uplift which would provide any sort of an accurate comparison. The section here is about 165 feet thick, in many cases carrying as much as 60 feet of saturation. Sand conditions are not uniform, and porosities as high as 30 per cent have been tested in certain parts of the field, while nearby hard and tight streaks are common.

The Garland City field of Miller County, Arkansas, is the only other field known to produce wholly from the Paluxy, although some of the production obtained from the western flank of the Caddo field of Louisiana and Texas, and possibly the Sligo, Elm Grove and Red River fields which are usually referred to as "Woodbine sands" are in reality producing from lenticular sands of Paluxy age.

Garland City production is obtained from the upper portion of the Paluxy and is a 29 to 31-degree A.P.I. gravity oil, compared to the 19- to 22-degree gravity Talco crude. The Arkansas field includes only 24 wells, covering about 280 acres. Total accumulated production to date there is 1,324,500 bbls, approximately 5,000 bbls. per acre or 55,200 bbls. per well. Early drilled wells, however, have produced higher than 100,000 bbls. each. Present daily production there from the 24 wells is about 600 bbls. daily. Considering the very slight decline exhibited in recent years, a long life and greatly increased recovery from this Paluxy field is reasonably expected.

The Paluxy member of the Comanche series is composed of red sands, shale and lime, and is a distinct change from the marine beds of limestone, shale and sand found in the Upper Glen Rose, which immediately underlies the Paluxy.

Talco accumulation in the Paluxy occurs on the upthrow side of the Mexia-Balcones fault feature (displacement about 600 feet), producing area thus far proven being about 1 mile wide and 9 miles long.

Although very few reserve estimations have been attempted, it was brought out in a recent railroad commission hearing that from 8,500 to 10,000 acres would probably prove productive, with an estimated ultimate yield of 105,000,000 bbls.

All evaluations of Talco properties recognize an intangible value for possible deeper production. In fact, the discovery well at Talco had the Lower Glen Rose (Trinity) as its objective when commercial quantities of oil was found about 1,800 feet higher in the Paluxy. The Upper Glen Rose underlies the Paluxy, ranging from 200 to 400 feet in thickness. At no locality in Louisiana, Arkansas, or East Texas, has this section produced oil in commercial quantities. The anhydrite section, often referred to as Middle Glen Rose, having a thickness of from 300 to 650 feet, next occurs. This section of the Trinity is never considered a very probable source of oil, although in a very few cases it has proved commercially productive at the contact points. Below the anhydrite is found the Lower Glen Rose which is a prolific producer of oil and gas at Rodessa, Cotton Valley, Sligo, and many other fields throughout Northern Louisiana and Arkansas. It is in these beds that it is thought much of the deeper possibilities at Talco lie. However, informed geologists feel no adequate test of the deeper pays will be complete without first exploring the sands of the Travis Peak, underlying the Glen Rose. One major operator recently completed a Talco well, setting quite favorably on present structure, with an 8-inch oil string, indicating it was possibly "marked" as the location for a deep exploratory test at a later date.

Drilling at Talco has presented only one real problem, that of controlling the prolific Nacatoch sand water penetrated from 600 to 900 feet. The majority of early drilling rigs were transferred from East Texas. These were followed by a heavier type rig, and overall drilling time ranges from 17 to 24 days. Many of the holes are drilled on a "poor boy" basis. An average of four fishtail and four rock bits are required per well, the rock bits being used throughout the Georgetown lime in all cases, and in some through the Pecan Gap and Austin Chalk formations. Costs have been minimized by setting only one string of casing below the surface pipe, usually consisting of $5\frac{3}{16}$-inch set in the base of the Fredericksburg.

The Nacatoch sand is drilled here at a depth of from 600 to 900 feet and carries an unusually large volume of water. Test of this water production recently showed it capable of flowing a full 12-inch stream, estimated from 50,000 to 60,000 bbls. daily, with a rock pressure of only 50 pounds, indicating its highly permeable character. In wells where this horizon is not properly shut off while drilling, considerable difficulty is later experienced. In one notable instance, after rig was being dismantled water began flowing up through the rat hole from the Nacatoch. In another case, a few weeks after completion, large water seepages appeared in a highway cut a short distance from the well. Some fear has been expressed in the possibility of cratering due to the upward encroachment of this large water volume, when not properly sealed off while drilling. A string of surface casing sufficiently long to case off the zone would materially add to the costs, and would not prevent necessity of drilling the sand with open hole, so is not looked upon with favor. The injection of a quick setting cement has been successful in sealing off the sand, as it can be easily placed back into the formation against the rock pressure of 50 pounds. Such a cement job is accomplished by pumping the slurry through drill pipe and circu-

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Natural Gasoline

California November Production

Natural gasoline production and shipments in the Pacific Coast territory remained at 41,000 bbls. daily and 4,000 bbls. daily respectively during November, according to the report prepared by the Bureau of Mines for that month, while refinery utilization increased 2,000 bbls. daily to 39,000 bbls. daily. During the year to date as compared with last year, production increased 4,000 bbls. daily to 38,000 bbls. daily while refinery utilization increased 1,000 bbls. daily to 32,000 bbls. daily and shipments decreased 1,000 bbls. daily to 2,000 bbls. daily.

Stocks at the end of November were 1,897,000 bbls., as compared with 1,955,000 bbls. a month ago and 1,523,000 bbls. a year ago.

Daily average production of liquefied petroleum gases increased from 1,749 bbls. to 2,046 bbls., of which 653 bbls. were produced at refineries in November. Daily average sales increased from 1,854 bbls. to 2,132 bbls. Still gas production during November amounted to 1,923,344,000 feet, equivalent on a B.t.u. basis to 493,549 bbls. of fuel oil.

NATURAL GASOLINE PLANT OPERATIONS

(November, 1936)

Field—	Gas treated (M.C.F.)	Nat. gasoline produced (gallons)
San Joaquin Valley:		
Elk Hills	55,058	107,819
Kettleman Hills	11,541,709	16,063,454
Midway-Sunset	1,140,208	2,041,167
Mountain View	964,115	1,013,251
Miscellaneous	3,812,655	2,528,384
Coastal Region:		
Elwood	755,621	1,034,641
Rincon	63,871	117,545
Santa Maria	134,432	373,356
Ventura Avenue	3,700,197	4,806,508
Miscellaneous	471,227	420,800
Los Angeles Basin:		
Brea-Olinda and Coyote	557,108	1,574,573
Dominguez	1,242,360	2,136,850
Huntington Beach	1,539,712	3,558,228
Inglewood	250,962	315,528
Long Beach	1,808,080	7,320,871
Playa Del Rey	388,939	1,279,932
Richfield	243,172	394,014
Rosecrans	627,625	718,772
Santa Fe Springs	2,213,849	4,762,295
Seal Beach	486,708	642,454
Torrance	79,480	202,953
Miscellaneous	477,664	606,167
Total (all fields)	32,554,752	52,019,562

DISTRIBUTION

(Gallons)

Stocks beginning of month	2,242,582	
Production during month	52,019,562	
Delivered to refineries		50,151,717
Delivered to jobbers, brokers or blenders		2,006,336
Blended at plants for production of motor fuel		6,162
Losses		64,301
Stocks end of month		2,033,628
Total	54,262,144	54,262,144

Liquefied petroleum gas prod. 1,755,051 gals. = 41 787 bbls
Motor fuel produced ..... 13,631 gals. = 325 bbls

Empire Promotions

E. L. Peck, manager of the gasoline division of the Empire Oil & Refining Co., announces the following changes in personnel: H. A. Ellis has been promoted to the newly created job of general superintendent of the gasoline division. He was graduated from Stanford University in 1922 and was employed by Empire in 1923. He has been superintendent of gasoline plant operations since 1931.

Ralph W. Johnston, superintendent of the gasoline plant at Tallant, Okla., has been transferred to Bartlesville as assistant superintendent of the gasoline division in charge of construction. He was graduated from the New Mexico School of Mines in 1923 and immediately began work for Empire. His assignment at Tallant was in 1934, following work as tester, engineer and plant superindendent at various locations.

These changes in operating superintendents

H. A. ELLIS

have been announced by Mr. Peck, effective February 1: C. F. Fischer from Sasakwa to Tallant, Okla.; V. F. Hobart from Pampa to Sasakwa, Okla.; J. L. Sperry from the Fish plant to Pampa, Tex.; G. B. Wooster, assistant superintendent, from Burrton to superintendent of the Fish plant near Wewoka, Okla.; L. H. Davies, operator of the Kansas gasoline test car, is made assistant superintendent at Burrton, Kans.

Carter Adding Compressors

Carter Oil Co. has begun work on the addition of two additional compressors in its Fitts gasoline plant, Pontotoc County, Oklahoma. This brings the total number of compressors in the plant to twenty-one 230-horsepower units and is the third addition in capacity since its original completion.

Natural Gas

Natural Gas Meeting

KANSAS CITY, Mo.—Officials of the Natural Gas Department of the American Gas Association and its equipment manufacturers' affiliate visited Kansas City to make final arrangements for the annual meeting of the organization in the Municipay Auditorium during the week beginning May 10.

Confering with Herbert E. Boning, Jr., Chamber of Commerce convention bureau manager, were Capt. A. E. Higgins, Dallas, executive secretary of the association; Merrill E. Davis, Bradford, Pa., president of the Association of Gas Appliance and Equipment Manufacturers, and C. W. Berghorn, New York City, executive secretary.

Much of the convention, Captain Higgins said, will deal with reports on research work, estimates of the available supply of gas, and conservation methods. Research men now hold there is a sufficient supply of natural gas already tapped to supply this country's needs the next 75 or 80 years, if consumption continues at the present rate, the secretary said.

Convention meetings probably will be in the Music Hall, while sectional meetings will be held in various rooms of the auditorium.

George E. Welker, Oil City, Pa., is president of the organization and R. W. Hendee, Colorado Springs, is vice president.

Peak California Demand

Southern California January 2 consumed the greatest volume of illuminating gas in its history, 450,000,000 feet. Three weeks ago when the weather was warm the consumption was only 235,000,000 feet. Four artificial gas plants with a daily capacity of 20,000,000 feet were put into operation as auxiliaries to the natural supply.

Mississippi Gas Wells

The state of Mississippi has begun to realize revenue from the natural gas wells which it recently drilled on state land in the Jackson field, as United Gas Co. has connected to five wells, agreeing to take 1,000,000 feet daily at 4 cents.

Amarillo Asks Reduction

AMARILLO, Tex.—Mayor Ross D. Rogers has been authorized by the city commission to start negotiations with the Amarillo Gas Co. for a reduction in the gas rate. Though Amarillo has one of the lowest domestic natural gas rates, Mayor Rogers made the suggestion, he said, in view of greatly improved general business conditions.

BASIN POSSIBILITIES

(Continued from Page 23)

vanian sediments rest upon pre-Cambrian rocks. This overlap causes the "wedging out" of the Simpson formations which offers possibilities for production where there is local structure or stratigraphic traps.

The Atlantic Oil Producing Co. found oil in the Mississippi lime in No. 1 Vaniman near Shallow Wells, Scott County, Kansas in 1934. The total depth of this well is 4,686 feet still in the Mississippi lime section.

The extensive drilling carried on in western Kansas in recent years has outlined the position of the Barton Arch. E. G. Woodruff in his paper on "Barton Arch in Central Kansas Indicates Major Oil Province" published in the March 7, 1935, issue of The Oil and Gas Journal cover major geological features now being developed and better understood through the drilling of wells in the entire central Kansas region.

There has been a great deal of geophysical work done in the boundary counties along the Kansas-Oklahoma state line. This work seems to have been encouraging because it has been followed by considerable leasing and it now remains for the drill to develop production.

Geologists are still debating as to trends of structures in this basin area. Some believe these smaller structures lie in a northeast-southwest trend and there has been a good deal of leasing in these directions from the Morrison well. This trend parallels the general trends of other pools in eastern Kansas. The other theory is that the trend of these smaller structures is to the northwest and southeast probably paralleling the strike of the buried Wichita Mountains. One company has recently acquired in excess of 8,000 acres in Harper County, Oklahoma. This lease play is probably based upon the theory that this county is over productive formations of pre-Pennsylvanian age and does not take into consideration the trend theory, simply assuming that in this basin there should be numerous local structures suitable for gas and oil accumulation.

All geologists agree that this region presents one of the remaining unexplored frontiers of Kansas and Oklahoma. It seems apparent this basin is deepening away from the Barton Arch and and some geologists believe another great structural feature known as the Ellsworth Arch, deeper than the Barton Arch, will play an important part in gas and oil accumulations. The major axis of the Ellsworth Arch trends northeast-southwest.

Pipe Line Activity

Intangible Tax Upheld

AUSTIN, Tex.—If the decision of the State Appellate Court upholding validity of the 1933 act imposing a tax on intangible assets of oil pipe line companies is sustained by the higher courts, it will mean payment by these companies of additional tax of about $1,500,000 a year, on the basis of present assessed valuations of their intangible assets totaling $59,000,000. The case was that of Texas Pipe Line Co., subsidiary of Texas Corp., against the state tax board. It was one of seven similar suits filed by major companies. A similar case, in which the law was attacked by the Atlantic Pipe Line Co., is pending on appeal in the Circuit Court of Appeals in New Orleans.

Panhandle Line

Contract for a 14-mile 20-inch gas line in the Texas Panhandle has been awarded Maddux Brothers by Shamrock Oil & Gas Co. The line runs from the company's Dumas plant southeast toward Borger and will be oxyacetylene welded by the lindeweld method.

New Booster Stations

KILGORE, Tex.—Capacity of the 198-mile 10-inch pipe line of Shell Pipe Line Corp., from the East Texas field to terminals on the Houston ship channel, will be increased from 43,000 bbls. daily to 50,000 bbls. daily by construction of three booster stations.

Oxford Line Near Completion

BROWNSVILLE, Ontario.—The pipe line of Oxford Pipe Line Co. connecting the Brownsville field with Southern Ontario Gas Co. main transmission line at Ingersoll is rapidly nearing completion and will be finished early in January. Work has been commenced on the company's purification plant in the field, which is to be finished by February 1.

Clark County Line

Olson Oil Co. is laying 6½ miles of 4-inch line from its property in Clark County, Kansas, to the town of Sitka, on the Santa Fe Railway where it is erecting a seven-car loading rack to handle oil produced from the well recently deepened to the Viola lime. Reclaimed 4-inch boiler tubes are being used for this pipe line in 30 to 35-foot lengths put together with special couplings. This tubing is tested to 1,000 pounds hydrostatic pressure. The oil will be pumped into the line at the well and delivered to terminal by gravity flow once the line is filled.

Second Hastings Outlet

HOUSTON, Tex.—The second pipe line outlet for the Hastings field, Brazoria County, Texas, is announced by Pan American Pipe Line Co., which will construct a 20-mile 6-inch welded line to the Pan American Refining Co. plant at Texas City, a distance of 20 miles.

Reconditioning Job

Pipe which the Oklahoma Pipe Line Co. is taking up along 33 miles of 8-inch line from Kinita to Wood station, Okla., is being reconditioned in yards at Talihina, Red Oak and Kinita. The work will finish the take-up of No. 3 line from Council Hill to the Arkansas line, and will requires the services of 50 men approximately one month.

Troy Field Line

SHREVEPORT, La.—Berry Asphalt Co. has surveyed and purchased right of way for an 8-inch pipe line from the new Troy producing area in Nevada County, Arkansas, to the company's refinery at Waterloo.

Peoples Natural Line

PITTSBURGH, Pa.—The new $1,500,000, 113-mile pipe line of the Peoples Natural Gas Co. has begun its first supply of natural gas from the northwestern Pennsylvania fields to Pittsburgh. This line was turned in at its southern end near Limestone in Clarion County and connects with two existing trunk lines which Peoples Natural Gas Co. has to the Pittsburgh district.

Capable of delivering 26,000,000 feet of gas a day, the 12¾-inch line was built to provide reserve supplies for future increased demands for gas, according to J. French Robinson, president of the company.

The new line is 113 miles long and extends from Limestone through Clarion, Jefferson, Elk, McKean and Potter counties to connect with the western end of New York State Natural Gas Co. line in Hebron Township, Potter County. Construction was started early last August and gave employment to nearly 1,000 men.

This is said to be the largest natural gas pipe line construction in western Pennsylvania for a number of years and one of the largest recent jobs in the United States, according to Mr. Robinson.

Tying in 500-foot section of submarine line to tanker anchorage, Bahrein Island

Refinery Projects

Completes Building Plans

LINDEN, N. J.—The Standard Oil Development Co. (Standard Oil Co. of New Jersey) has completed plans for a $170,000 three-story addition to the company's chemical laboratories at the Bayway, N. J., refinery. Previous plans called for a $55,000 addition to the three-story general engineering and office building, and a new $50,000 one-story automotive testing laboratory. This makes a total expenditure of $275,000.

The addition to the chemical laboratory will be 68 feet by 131 feet, of brick and steel fireproof construction, with terra cotta partitions on the inside, and will be built to conform with the architectural style of the present building. The new space will be used for office and research work.

Purchases Refinery Site

DENVER, Colo.—Taylor Oil Co. is reported to have purchased site for an oil refinery at Cowley, Wyo., and to be planning to erect a plant at an early date to handle the oil from its well in the Garland field, where it is drilling a second well. The site is the location of the old refinery operated by the Continental Oil Co., which has cement foundations for stills and equipment still in place. The Illinois Pipe Line Co. has an old 8-inch line from the field to the site. W. O. Taylor is president of the Taylor Oil Co., and S. H. Keoughan is associated with him in the drilling operations.

Refiners to Meet at Hot Springs

The twenty-fifth annual meeting of the Western Petroleum Refiners Association will be held in the Arlington Hotel, Hot Springs, Ark., April 26, 27 and 28, A. V. Bourque, secretary-treasurer of the association announced today.

The association will celebrate its silver anniversary this year with ceremonies recalling the early days of the Mid-Continent refiner. Several of the members who organized the association will attend.

Adding Cracking Unit

CHARLESTON, Va.—Elk Refining Co., operator of a 2,500-bbl. skimming plant at Falling Rock, W. Va., is now erecting a 1,200-bbl. Dubbs cracking unit and plan to have the unit completed by March 1. The company is also erecting a continuous gasoline treating plant and a new wax press building.

To Increase Capacity

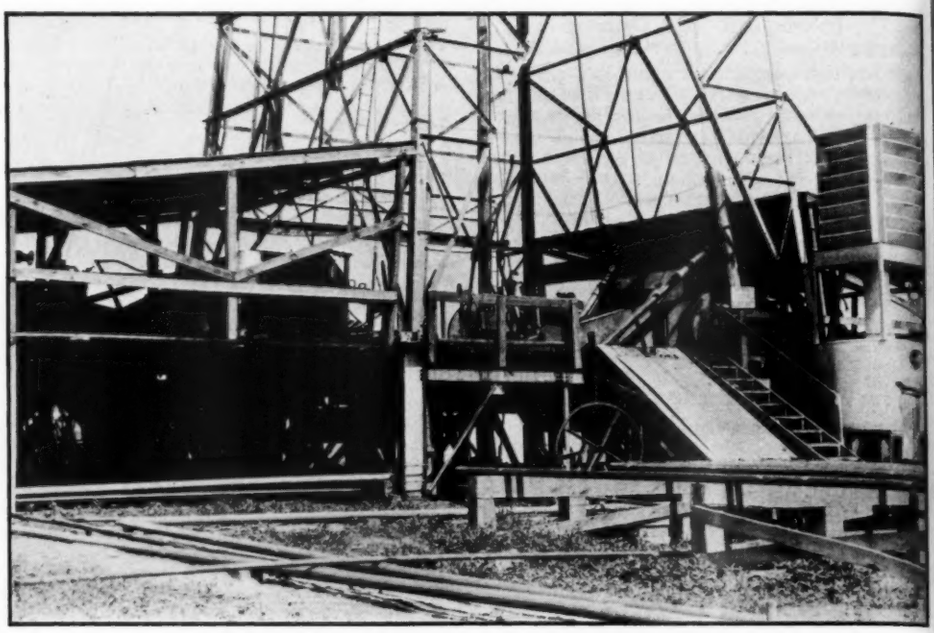
CORPUS CHRISTI, Tex.—Wood-Moore Corp. plans to increase the skimming capacity of its Port Lavaca, Tex., refinery from 1,500 to 2,000 bbls. daily within the next 60 days. The plant was completed about one year ago.

Lube Plant Nearing Completion

EL DORADO, Ark.—Lion Oil Refining Co. is now nearing completion of its new lube oil plant and expects to have the plant completed about February 1. Capacity of the plant will be 400 bbls. per day.

11,975 Feet of Casing Is Set in Louisiana Wildcat

By NEIL WILLIAMS



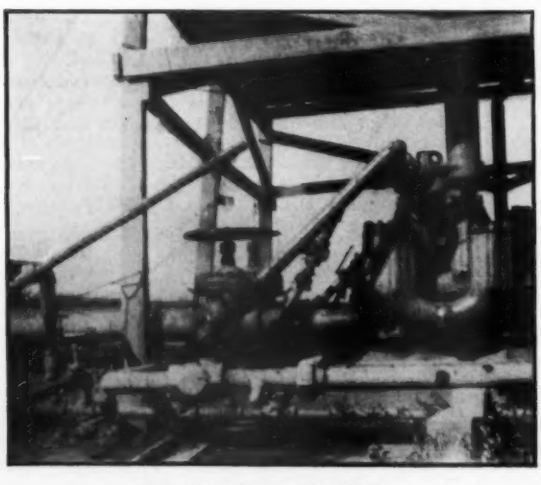
Double drawworks rig used in drilling deep test at Abbeyville

HOUSTON, Tex.—With the running of 11,975 feet of 5-inch casing, Continental Oil Co. has added another record in the drilling of its No. 1 Hebert, wildcat test on the Abbeyville Prospect, Vermilion Parish, Coastal Louisiana. This is believed to be the longest string of casing ever set. The previous longest string is in the same well, this consisting of 10,947 feet of 7-inch pipe. The well also claims the record for the deepest fishing job and the deepest sidetracking job, and at its total depth of 12,216 feet it is the second deepest test in the world.

This lacks only 570 feet of equaling Gulf Oil Corp. No. 103 McElroy, Upton County, West Texas, the present deepest test in the world, drilled several years ago to 12,786 feet. At its total depth of 12,216 feet, the Continental well encountered showings of oil which gave promise of making a producer. The 5-inch casing was run to test these showings, and if a well is completed, it will be the deepest producer in the world.

Testing awaits the arrival of a string of special drill pipe to drill plug through the 5-inch casing. The hole was drilled with 3½-inch O.D. (2⅝-inch I.D.) 15.20 pound internal flush, external upset drill pipe, but this does not allow sufficient clearance in the 5-inch casing for further drilling. The special drill pipe ordered, and which is expected within a week, is 2½-inch, Grade D, external upset, Doheny-Stone threaded pipe.

At 11,975 feet, the 5-inch casing is 421 feet off bottom. It stuck at that depth, and when efforts to rotate it further were unsuccessful, it was cemented, using 150 sacks of slow-set cement. An 80-foot section of cavey, heaving shale topped at 11,675 feet which gave considerable trouble during drilling, is believed responsible for the sticking of the pipe, and, if so, the bottom of the casing is safely through it and no further trouble need be anticipated in setting screen and liner through the remaining open hole.



Part of mud pump installation

In running the long string of casing a number of difficulties were confronted. In the first place the pipe had to be run in sidetracked hole through a window cut in the 7-inch casing around 10,800 feet. From that point to bottom only 6-inch hole had been drilled, which allowed very little clearance for 5-inch pipe. Bad shale conditions in the hole, coupled with high gas pressures, added to the hazards.

Making up the casing are two strings of pipe. The bottom 5,000 feet consists of 21-pound, 5-inch O.D. flush joint casing. The remainder, totaling approximately 6,975 feet, is 18-pound, external upset casing. Because of the small clearance and the troublesome shale, it was necessary to rotate the pipe down the open hole. For this purpose a millable shale bit was run on the bottom of the pipe.

As an unusual procedure, the two strings of pipe were run separately. In this, the flush joint pipe was rotated in with the 3½-inch drill pipe. When down as far it would go, the drill pipe was backed off, pulled and laid down, and then the upset casing string was run in, and screwed into the top of the flush joint pipe. With the bottom of the 5,000-foot string of flush joint casing at 11,975 feet, or 1,175 feet below the window of the 7-inch, the top was 3,825 feet up in the 7-inch casing, or at a depth from the surface of 6,875 feet.

Previously, an attempt had been made to rotate the pipe in with the 5-inch upset casing as one string. However, after starting out the window into the sidetracked hole and trying to rotate, so much pressure was required for circulation, due to the tight hole, it was found advisable to use drill pipe. The casing was pulled to the top of the flush joint pipe and all the upset end casing laid down. On top the flush joint casing was placed a safety joint with a swedge down to the 3½-inch pipe, and with the 3½-inch drill pipe the string was run back into the hole.

Because of the high gas pressures, running of the pipe was stopped at frequent intervals to pump and circulate the mud. In the 7-inch casing, the mud was completely circulated at 5,000 feet, again at 7,500 feet and a third time at 10,800 feet, just before the 5-inch was started out into the open hole. In the open hole, only a joint or two would be rotated in at a time before circulating to remove all gas cut mud. So great was the pressure that before the pipe was down the weight of the mud had to be increased to around 18 pounds. The pipe was started in with the mud around 13 pounds. When the first gas was reached, the weight of the mud was raised to 15 pounds. Later this proved inadequate and the weight was boosted to 16½ pounds, and finally up to 18 pounds. Circulating pressures between 1,500 and 1,800 pounds were maintained while the pipe was being rotated in.

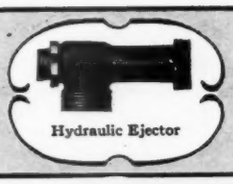
Operations have been under way at this test for a year and eight months. Drilling was started early in April, 1935. At 251 feet, 18⅝-inch conductor pipe was set and cemented. This was followed with 13⅜-inch surface casing cemented at 1,881 feet. From this depth, open hole was drilled to 10,956 feet, a total of 9,075 feet of open hole. Down to 8,015 feet, 12¾-inch hole was carried and from there to bottom 9⅞-inch hole. Due to numerous cores taken between 4,700 feet and 10,956 feet, 88 days were required in making the total of 9,075 feet of open hole from the 13⅜-inch casing.

To protect the hole to 10,956 feet, a string of 7-inch casing was run and cemented 9 feet off bottom at 10,947 feet. This string was made up of 8,947 feet of 30-pound Grade D casing, and 2,000 feet of 28-pound, external upset, seamless steel, Doheny-Stone threaded, casing. It was run in 16½ hours without trouble and was cemented with 2,000 sacks of cement.

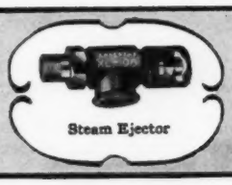
After negotiating high gas pressures and bad shale conditions, the hole drilled to 11,505 feet, where it was found 6 degrees off vertical. Plugged back to the 7-inch casing, the hole was redrilled to 11,732 feet, where drill pipe stuck while a core was being taken. This occasioned a long fishing job to recover the pipe, in which the hole was cleaned to within 825 feet of bottom. This was the deepest fishing job ever undertaken, and the string of pipe was the longest ever recovered.

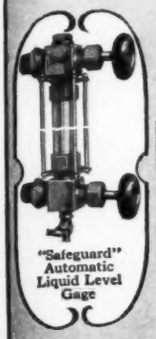
With 825 feet of pipe left unrecovered, the hole again was plugged back to the top of the fish, which was 40 feet in the 7-inch casing. A whipstock then was set, and after milling out of the casing, the hole was sidetracked again to its present total depth. Including the sidetracking jobs, a total of 13,706 feet of hole has been drilled.

In view of the fact that the 7-inch casing was


Hydraulic Ejector

PENBERTHY PRODUCTS


Steam Ejector

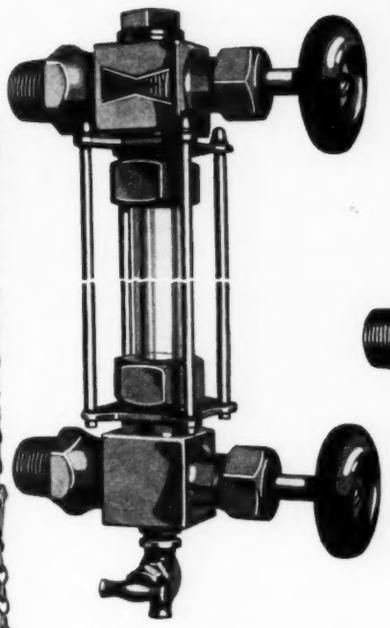

"Safeguard" Automatic Liquid Level Gage

Automatic Injector

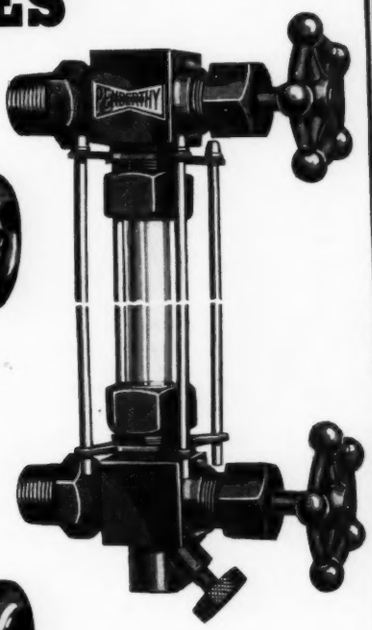
PENBERTHY LIQUID LEVEL GAGES

MEET ALL OIL INDUSTRY NEEDS

"NAVY TYPE"
350 LBS. WORKING PRESSURE
500° F.

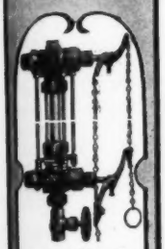


"SAFEGUARD"
300 LBS. WORKING PRESSURE
500° F.

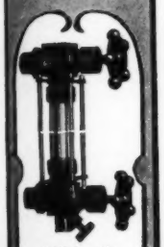


"ALL IRON"
500 LBS. WORKING PRESSURE
750° F.

PENBERTHY PRODUCTS


"Navy Type" Liquid Level Gage

Gas Engine Lubricator


"All-Iron" Automatic Liquid Level Gage

Snap Lever Oiler

THE three gages shown here are very popular in the oil industry because of their consistently dependable operation. All of them are ruggedly built of the highest grade materials by an organization that has had 48 years experience in the manufacture of quality products. The "Navy Type" is made from Navy Bronze Composition M, the "Safeguard" from high grade steam metal bronze and the "All Iron" from a modern electric iron alloy.

All these gages have automatic shut-off. Both upper and lower body have ball check valves that seat immediately and positively to prevent the loss of liquid when glass is broken. The hand operated stop valves may then be closed with safety and a new glass inserted.

Each gage is carefully tested and rigidly inspected at the factory. For detailed descriptions write for a copy of the new catalog.

Penberthy Liquid Level Gages are carried in stock by supply houses everywhere.

PENBERTHY INJECTOR COMPANY

DETROIT, MICHIGAN
WINDSOR, ONTARIO

MANUFACTURERS OF QUALITY PRODUCTS SINCE 1884

Automatic Cellar Drainer (Water or Steam Operated)

Spring Compression Grease Cup

Plain Compression Grease Cup

Screw Plunger Grease Cup

Automatic Electric Sump Pump

of Grade D stock, milling out was considered a difficult job, but was accomplished successfully with an E&W milling tool, which cut a 14-foot window at 10,800 feet. At the level the window was cut the formation was so hard that a rock bit had to be used to take off in starting the new hole. This was the deepest such a job had ever been undertaken, which added to the hazard.

From that point to bottom, high gas pressures presented a hazard in drilling, and cavey, heaving shale conditions, particularly in an 80-foot section topped at 11,675 feet, gave considerable trouble. However, with the 5-inch casing cemented well below that level, operators believe their worst troubles are over, as efforts are being made to attempt completion of the well.

The well has been drilled under contract by Loffland Bros., who have used a double drawworks rig, with equipment of the largest and heaviest types.

TALCO

(Continued from Page 27)

lating. Very careful checking of drilling mud, keeping weights above 11½ to 12 pounds per gallon, will permit drilling through the horizon, but permanent protection is not assured. This Nacatoch water is slightly salty, but on the downthrow side of the fault to the north it carries a fresh water in lesser quantities.

Production is allocated upon a per well basis, present figure being 85 bbls. per well per day. A 24-hour potential test is made on all new completions, and if a well will not make its allowable, it is given its proportionate allowable. Daily production is now 15,900 bbls. from 170 wells, about 95 of which are flowing and 75 pumping or agitating. Flowing wells derive their energy from a natural water drive from the south. Very little gas is associated with the oil. Pumping units are experiencing no apparent difficulties in handling the daily volumes now, although due to the depth, heavy gravity of oil, and increasing water loads, very little back-side cranking or multiple pumping arrangements are possible. Only in the closely spaced area in the townsite has dual pumping been attempted. Polish-rod loads range from 10,000 to 14,000 pounds, and subsurface equipment presents no troublesome problems. The cups on common working barrels cut out rapidly.

The majority of wells are making water in quantities ranging from 5 per cent to 75 per cent. Water occurs both in the form of flank encroachment from the south and also bottom-hole penetration. Serious consideration is now being given to reconditioning the large water producers, and it is the general opinion that by the use of cement retainers and special retarded action cements successful plug back and squeeze jobs can be placed on the bottom water producing portion of the producing section. Water level occurs at about minus 4,000 feet in the eastern portion of the field, and at about minus 3,960 feet in and west of the townsite.

Salt water disposal has not yet become a problem, but if it does efforts will probably be made to pump the water back into the highly permeable Nacatoch sand through injection wells. The low rock pressure, with apparently unlimited reservoir capacity, makes this sand attractive as a disposal point.

The treating of emulsified oil is undoubtedly the major operating problem at Talco. The crude has a low initial boiling point and the specific gravities of the oil and water are about the same. Heating, gravitational and electrical dehydration methods have been used. Excelsior or "hay" tanks are in the experimental stage here, but early tests indicate their successful operation.

Gravity of the Talco crude varies from 19 to 23 degrees A.P.I. with a wax-bearing asphalt-paraffin base. After distillation an asphaltic residue of from 37 to 50 per cent remains. From 10 to 12 per cent is a low octane gasoline (under 62), 8 to 10 per cent kerosene and 25 to 30 per cent gas-oil.

For several years specialty refineries making asphalt products faced a possible future shortage of crude, but the Talco discovery greatly strengthened the situation. This crude has an even higher per cent of asphaltic residue than the famous Smackover "heavy," which tests about 28 per cent residue. Annual production of asphalt products from the Smackover refineries exceeds 150,000 tons annually, and they are marketed throughout the south, southwest, central and Great Lakes states. Quality of these products are second only to those from Mexico crudes. The Talco production has definitely come into the asphalt refining picture. A considerable amount has already been shipped by rail to the Arkansas refineries for processing.

Any possible shortage in market outlet for this crude is fast being removed as two refineries are now under construction there, and Humble Pipe Line Co. is taking means to increase the capacity of its line for handling the viscous crude. It has moved several batches through its Talco-Longview-Shreveport line to Standard Oil Co. of Louisiana Baton Rouge refinery, and the line capacities were reduced as much or more than 50 per cent during colder weather. However, the Talco crude is now being blended with East Texas oil at Longview, and the movement greatly facilitated.

The Constantine refinery will complete construction of its 5,000-bbl. capacity refinery in the Talco townsite soon, and expects to process about 3,000 bbls. daily. The Premier Asphalt Co. of Mount Pleasant (J. F. Lucey and others) is under construction, and will receive its stock through Talco Pipe Line Co. 6½-inch line now being completed from the field.

OBITUARIES

AUGUST F. JUTHMANN, paymaster in the Chicago general offices of Standard Oil Co. (Indiana), died January 5.

T. B. COBB, 57, pioneer oil operator of Pampa, Tex., died of a heart attack Jan. 3. He was well known in Moore County and New Mexico districts.

H. G. MOBLEY, 47, of Houston, Tex., superintendent for Humble Pipe Line Co., an employe of the company for 18 years, died Jan. 3 in Memorial Hospital from a gunshot wound in the chest.

E. F. KELCH, 58, drilling contractor, Tulsa, dropped dead at his home last week of a heart attack. He had lived in Oklahoma at Tulsa and Mounds 30 years. He was a native of West Virginia.

RUSSELL C. KING, 52, died in the Jackson Park Hospital, Chicago, last week from injuries received on December 19 when struck by an automobile. He was chief clerk in the traffic department of Standard Oil Co. (Indiana).

SIDNEY E. KING, 82, of Dallas, Tex., veteran drilling contractor, died in a Tulsa hospital Jan. 11. He had spent more than 25 years in the Mid-Continent fields. Carl B. King, of the Carl B. King Drilling Co., is a son.

J. F. MAX PATITZ, chief consulting engineer, Allis-Chalmers Manufacturing Co., Milwaukee, Wis., died suddenly of a heart attack Jan. 3. He was associated with Allis-Chalmers for more than 51 years, nearly 26 years of which he served as consulting engineer.

F. H. WALLACE, 57, Tulsa drilling contractor and oil man, died January 8, after two years' illness. He came to Tulsa 12 years ago from Mannford, Okla. Born in Fairview, W. Va., he worked in the oil fields there when 15 years old. In 1920 he went to Texas and a year later to Okmulgee, Oklahoma.

DR. FRANCIS SALES WOIDICH, Austrian engineer formerly of Tulsa, died Jan. 3 in Metz, France. A graduate from Goettingen University he obtained patents on a gasoline stabilization process and other methods of scientific control. He also constructed a refinery at Sapulpa, Okla. In 1931 he left Tulsa to undertake a construction project in France.

PAUL JEFFERSON McBRIDE, 69, Tulsa oil man died Jan. 11. He was born in Mercer County, Pennsylvania, March 11, 1867, and began working in the Bradford and Butler oil fields and in West Virginia when a boy. He later went to Illinois and Texas fields. He was a brother of the late W. C. McBride of St. Louis, Mo.

CONTROLLED STATIONS

(Continued from Page 26)

sion witnessed in some cases. The dealer now must keep up the service-station equipment himself. He must meet the water, telephone and electric-light bills. If he does not see that the rest-rooms are kept tidy, there is no company representative to call him to account. He is his own boss. So it comes about that an air of neglect and uncleanliness sometimes surrounds the station, and equipment that belongs in the scrap heap is made to go on doing duty. Such a station tends to cast a shadow on the refiner whose house-branded products it handles.

SOMETHING ELSE TO WORRY ABOUT

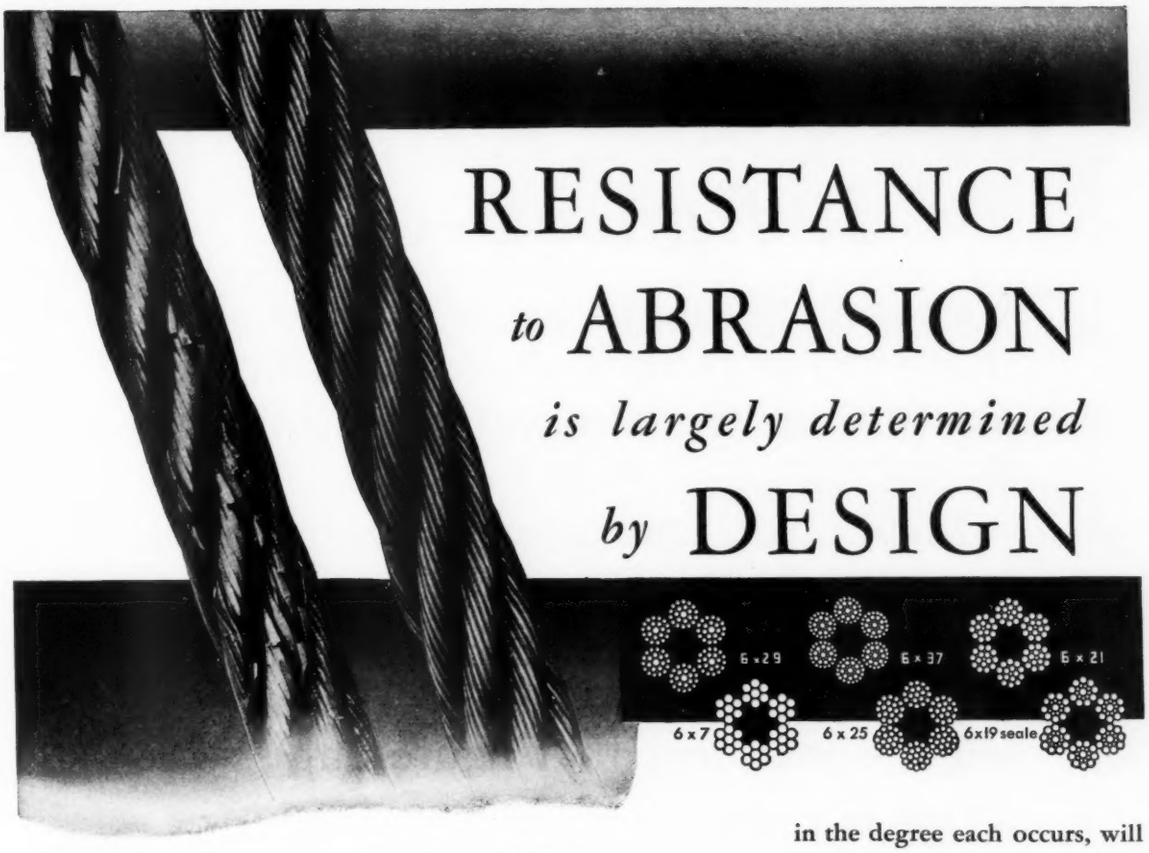
And here develops another thing to worry about. The dealers who operate their stations in a businesslike, efficient way are the ones prized by oil companies. So there has sprung up competition for these dealers. The bait offered the dealer is a lower rental rate. Three forms of lease are in use: (1) Straight rental. (2) Payment of a certain amount on each gallon of gasoline sold, usually a half-cent to three-quarters of a cent, though a few lessors are said to be getting a full cent on each gallon sold. (3) A combination of 1 and 2. The practice of "underleasing" is met at times by a counter offer, to the distinct advantage of the dealer and the corresponding disadvantage of his supplier.

There has been widespread organization of dealers' associations since the Iowa plan came into vogue. Not infrequently the membership is composed of dealers in just one town or city. As a rule these organizations are regarded with approval by refiners and jobbers, since their primary purpose is to effect concerted action and uniform service-station practice, thus exerting a stabilizing influence on the retail market and tending to preserve better standards of service.

Even if all chain-store tax laws were to be wiped off the statute-books, it is believed unlikely that any of the groups at interest would choose to go back to the old marketing customs. Operation of service stations by salaried employes is now beset by so many difficulties and increased costs that oil companies would have great trouble in earning profits in most areas. The jobber's pathway, running between the refiner on one side and the dealer on the other, is far less thorny than it used to be. The dealer likes being in business for himself, if he is of the right caliber, and generally his income is bigger than the salary he used to get as a service-station employe. Through his associations, too, he is finding it possible to widen his margin of profit between the tank-wagon price which he pays and the service-station price at which he sells.

And that focuses attention upon a development which is reported to be faintly visible on the marketing horizon, namely, the possibility of some jobbers and perhaps some major refiners resuming operation of limited numbers of their old stations. Chain-store tax laws impose a graduated tax, which does not bear heavily on the first five or 10 units, but rises sharply after that. The bigger margin of profit now being garnered by dealers in some areas makes it look as though a jobber or refiner might operate a few stations in such areas to advantage.

But nobody seems sure about it.



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When resistance to abrasion is the primary characteristic you demand in wire rope, select a rope with strands composed of few but heavy outside wires. Bear in mind, however, that the heavier the outside wires the less the rope is able to resist damage from bending. If wire rope in your particular service is subjected to both abrasion and frequent bending, it is wise to study the degree that each exerts as a destructive influence. The selection of a rope design that compromises resistance to abrasion with resistance to bending in the degree each occurs, will result in the longest possible rope life. Further information on this subject will be gladly sent to you upon request.

●

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Maybe you can meet competition but you can't beat arithmetic

Buying high-priced crude, making low octane gasoline and cutting the price to sell it—how does that figure out?

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The highest yield of the best anti-knock gasoline—and at lowest cost—royalty and all And you can always sell it—and get the price for it

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Defendants in Madison Inquiry Required to Appear Feb. 1st

MADISON, Wis.—Defendants in the government's antitrust law prosecutions of 27 oil companies and some 70 of their executives will be required to appear in federal court here February 1 to answer two sets of similar indictments charging conspiracies to maintain artificial market prices on gasoline and to restrict jobber margins.

Judge Patrick T. Stone on January 8 validated two contested indictments returned by the 1936 grand jury, sustaining a government demurrer to the pleas in abatement filed jointly by all the defendants. He held there was no showing of prejudice in the methods by which the grand jurors were impaneled.

COURT ORDER

The court's order directed the defendants appear in person on the first day of next month for arraignment on the original indictments and to answer similar true bills returned in December by the new 1937 grand jury. Possibility the government will elect to proceed on the new indictments, however, was seen in a motion by counsel asking a new order impounding evidence for trial of the new cases. Judge Stone indicated he would sign such an order.

He also set for final hearing and answers by the government on February 1, three new defense motions, including a petition for unconditional return to the defendant companies of all records furnished by them in the oil inquiry; a request for release of witnesses from the oath of secrecy taken before the grand jury; and a new order to show cause why evidence taken by the first grand jury should not be suppressed upon trial of the cases.

The judge denied a motion by William H. Dougherty, Janesville, Wis., associate counsel for Gulf Oil and Gulf Refining companies, asking a complete transcript of testimony taken before the grand jury. He also dismissed, with the consent of the defense, an order to show cause, filed in December, why documents presented to the first grand jury, should not be withheld from the new jury. The issue was concede to be "water over the dam" when it was disclosed that the new jury already had seen the records and had prepared indictments.

PRELIMINARY ARGUMENTS

Preliminary arguments were heard January 8 on both the motions for return of the papers and release of witnesses from the secrecy oath. Both measures are necessary, the defense attorneys maintained, to permit their proper preparation for trial. They charged they had been unable to see the documents except in the federal building under government "surveillance." Judge Stone insisted the defense at all times has had access to the records, and conceded attorneys have a right to interview witnesses, but he was not ready to concede the propriety of their interrogation of witnesses regarding their testimony before the grand jury, though he consented to receive citations on the question.

Mere permission to interview witnesses on matters set forth in the indictments is not sufficient, said Col. William J. Donovan, chief counsel for 17 of the corporate defendants, because the witnesses are "scared to death" by their secrecy oath, he explained, especially in view of the fact several of them were called personally before the court to impress them, and the result will be a tendency on their part to "refuse to talk at all."

Colonel Donovan and his local associate, Attorney H. H. Thomas, argued the need for secrecy was ended with the return of indictments and arrest of the defendants. J. H. Lewin, special government attorney, however, charged the real purpose of the move was to throw the grand jury proceedings wide open to a search for grounds to bring possible new charges of "gross irregularities" in the conduct of the oil inquiry. For the defense to have access to the entire grand jury proceedings, Judge Stone indicated tentatively, would be highly improper and he served notice that "I'm not going to let anybody walk into the back door of the grand jury room when the front door is closed."

"We aren't trying to get in the back door," Donovan replied. "We say that the front door is open."

DEMURRER SUSTAINED

In sustaining the government's demurrer to the plea in abatement, Judge Stone held the original grand jury was selected "in a manner which I think was proper." While the jurors' names were not placed in the jury box exactly as the law directs, he said, they were placed there by duly authorized officers of the court, and there was, at the most, "a mere irregularity," with no showing of fact the rights of the defendants were prejudiced in any way.

Charges of politics, partly in jest, partly in earnest, and a sharp exchange of personalities between attorneys developed in arguments on the plea in abatement and drew a warning from the bench to avoid "bad blood."

"We've got to live together for many months," the judge pointed out. "The court will run this trial, if there is to be a trial."

Hostility grew into an open clash between Lewin and Donovan after the former had attacked the plea in abatement as captious, picayunish, dilatory and "a desperate attempt to keep away from trial."

Judge Stone interjected the observation that he believed the plea was honestly and seasonably made and that the defense was within its rights in challenging the indictments. Donovan's reply to Lewin was a stinging rejoinder.

"No public official, temporarily dressed up in brief authority, is going to intimidate us from protecting our clients' rights," he said. And an alert public official, he added, would have quickly ascertained the facts regarding the drawing of the grand jury. In checking up on the jury, he said, "we only did what he should have done."

POLITICAL BANTER

The political implications arose out of a bantering exchange between Dougherty, a former Republican United States attorney for this district, and Judge Stone, appointee of a Democratic president. Dougherty had questioned the method of selecting the grand jury list in 1930 when it was made up from names submitted by postmasters in the district in response to letters sent out by the clerk of court.

How, Judge Stone inquired, would Dougherty go about compiling a jury list if he had the job to do?

He would write letters, the attorney replied, to various men of standing in the community.

"What do you think of our postmasters, who are appointed by the government?" inquired the judge. "Are they not men of some standing in the community?"

"They are men of standing," Dougherty answered, "but the court will take judicial notice of the fact that they are political in color. They are appointed solely by reason of politics."

"The clerk has been, and is, we will assume, of the Republican faith," the judge said. "He has written to a lot of postmasters in the last year or two, getting out a new jury list. What criticism have you to make of that?"

"I think, if your honor please," replied Dougherty, "that going into a Democratic reservoir is just as objectionable as going into a Republican reservoir, and certainly my well-known standards of Republican principles will preclude anybody from getting the opinion that I am criticizing the Republican postmasters, of which there are none, now."

Arising in answer to the defense arguments, Lewin took exception to Dougherty's statement as "improper innuendo" and accused the defense attorneys of making veiled charges that "there may have been some political hookup" in connection with the oil inquiry. Dougherty protested, and the court came to his defense.

"Anybody who knows Mr. Dougherty as I do," he said, "would know that what he said was in a light vein. I still have confidence in our postmasters, whether they be Republicans or Democrats. There has been no breath of suspicion here of any wrongful motive in the selection of the grand jury."

LEGALITY TO JURY

The defense argued the jury was illegal because the jury commissioner was not present in 1930 when the clerk placed the names of 800 prospective jurors in the call box, and that the names of six more jurors were placed in the box last April in such a way they could not avoid being drawn when court officials acted in an emergency occasioned by the prospect there might not be a complete venire available within the 24 hours remaining before the jury was scheduled to report. And the jury's indictments, Dougherty argued, had no more weight, by reason of its unlawful impaneling, than if they had been a group of newspaper reporters.

"The plea," Donovan insisted, "raises a fundamental question distinct from that of prejudice. It raises the question as to whether the grand jury ever was constituted, ever actually brought into existence." A fundamental requisite was lacking, he held, in the fact that the clerk had no authority to act in the absence of the commissioner.

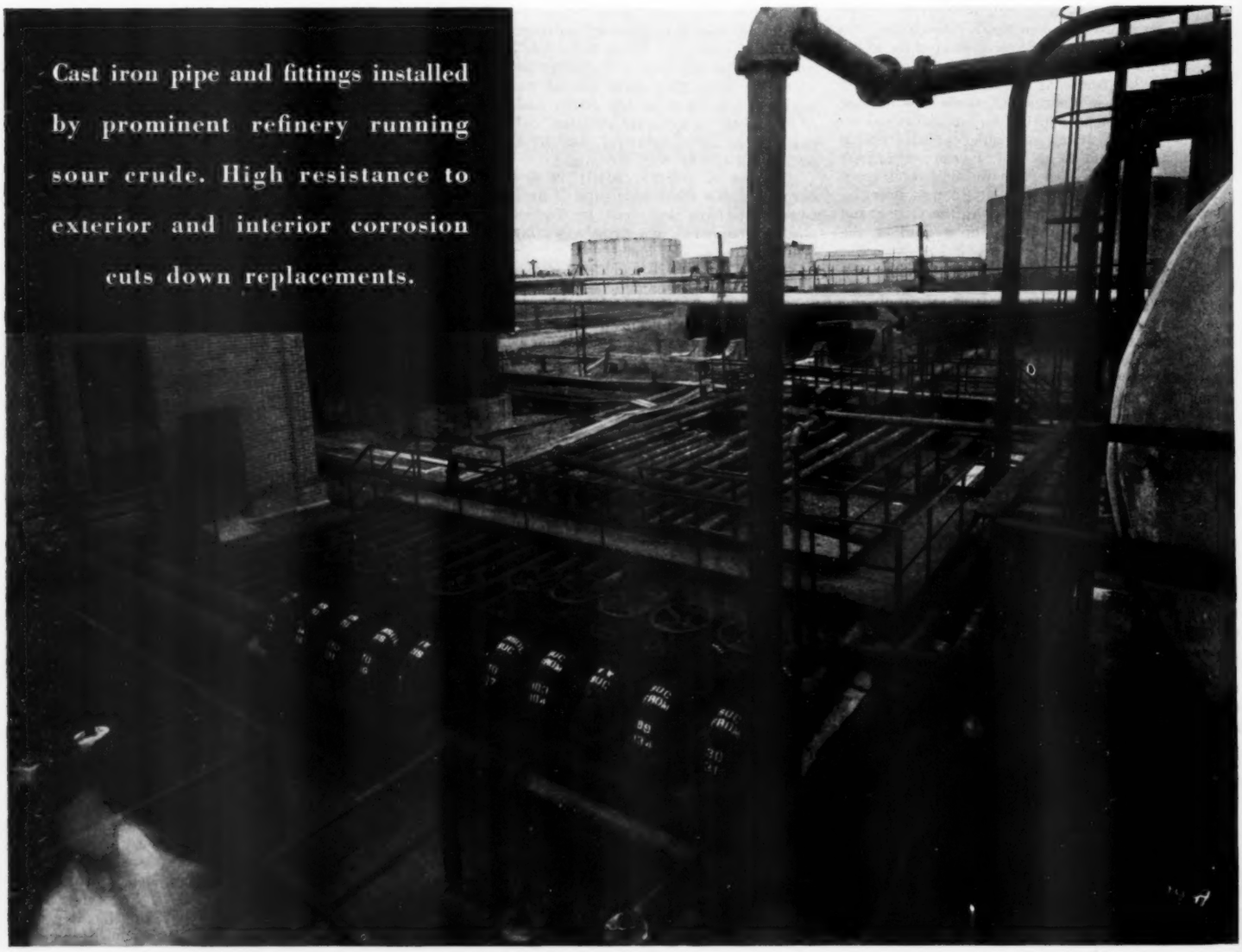
Lance Creek Royalties

The department of the interior has issued a call for bids for the sale of the royalty oil accruing to the United States from leases on government land in the Lance Creek oil field, Wyoming, for a period of three or five years beginning April 1, 1937. Further information may be obtained from the Director, Geological Survey, Department of the Interior, Washington, D. C., the Supervisor Geological Survey, Casper, Wyo., or the Register, United States Land Office, Cheyenne, Wyo.

CAST IRON PIPE SAVES MONEY for this and other large refineries

Cast iron pipe contributes to economical refinery operation because of its high resistance to corrosion and consequent longer life. It costs less per term of service and saves frequent expensive replacements. And it has salvage value. These known advantages are leading to a steadily growing use of cast iron pipe for refinery service where corrosives are encountered. Cast iron pressure pipe is available in bell-and-spigot, plain and threaded ends, and flanged types, or with bottle-tight mechanical joints, in diameters from 1¼ to 84 inches. For further information write to The Cast Iron Pipe Research Association, Thos. F. Wolfe, Research Engineer, 1013 Peoples Gas Building, Chicago, Illinois.

Cast iron pipe and fittings installed by prominent refinery running sour crude. High resistance to exterior and interior corrosion cuts down replacements.



TEXAS UNDERPRODUCTION DROPS TO LOWEST POINT

AUSTIN, Tex.—Underproduction of oil as calculated by the oil production, transportation and refining division of the Railroad Commission has dropped to the lowest percentage in 12 months. Olin Culberson, director, reported underproduction was 1.25 per cent of allowable, compared to a previous low of 1.72 per cent in September and 2.12 per cent in October. The summary showed reported production of 34,437,039 bbls. during November with 39,394 bbls. added for unreported leases making a total indicated production of 34,476,433 bbls. compared to a total allowable of 34,912,986 bbls. The state thus underproduced by 436,553 bbls. during the month.

Runs to pipe lines were reported at 34,109,008 bbls. and runs by pipe lines, 34,158,391 bbls. showing an excess of 49,383 bbls. over the amount reported by producers. Other disposals were: Tank-cars 52,632 bbls., trucks 107,580 bbls., fuel 38,649 bbls., miscellaneous 17,745 bbls. Storage increased from 4,201,140 bbls. at the start of the month to 4,312,761 bbls. at the close.

The summary showed 4,539 operators reported and 80 did not, representing 13,387 reported and 92 unreported leases. Reports covering 2,190,250 acres with 27,139 flowing and 39,907 pumping wells.

BAR FAVORS OIL LAWS

COLUMBUS, Ohio.—A recommendation that the Connally hot oil act and the Interstate Oil Compact be extended for a period of two years by congress was made here by the mineral law section of the American Bar Association.

In recommending their renewal the committee said: "The constitutionality of these acts has not been questioned and experience has demonstrated they have been effective aids in the conservation of oil and gas in the oil-producing states. Both measures were adopted with little or no opposition, and it is believed that a similar general unanimity of well-informed opinion exists in their favor today."

Charles R. Francis, Houston, Tex., is chairman of the mineral law section.

SHELL UNION MARKETING

Shell Union Oil Corp. has completed a reorganization and expansion of its marketing structure in its direct sales territory on the eastern seaboard, according to L. T. Kittinger, vice president of marketing. Several new head office sales departments have been created in New York, and four new division offices established, in Albany, N. Y.; Elizabeth, N. J.; Hartford, Conn., and Portland, Me. C. E. Smith, formerly southern division manager at Charlotte, N. C., was named sales manager.

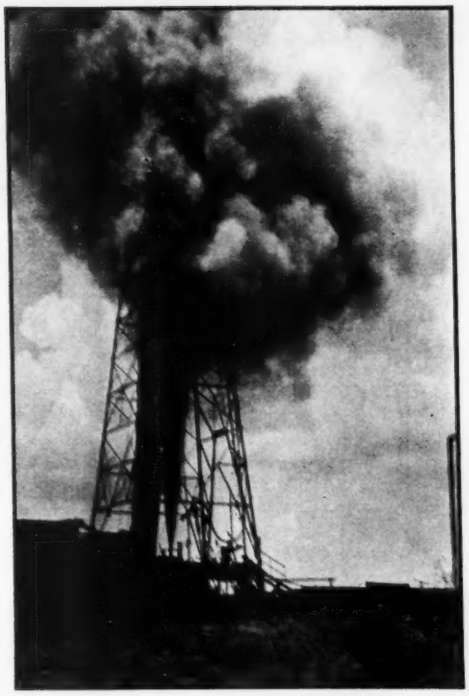
FREMMING'S CAMPAIGN

LONG BEACH, Calif.—Harvey Fremming, president of the International Oil Workers' union, announced a campaign would start April 1 to organize approximately 1,000,000 workers in the oil industry.

"We expect John L. Lewis, head of the committee for industrial organization, will personally direct the membership campaign," said Mr. Fremming.

NEW TEXAS CHAIRMAN?

AUSTIN, Tex.—When Col. Ernest O. Thompson, present chairman of the State Railroad Commission, takes the oath of office for a new six-year term immediately after inauguration of Gov. James V. Allred, January 19, the commission will elect a new chairman for a two-year period. If it follows a rotation plan invoked several years ago when a dispute arose over the chairmanship, C. V. Terrell will be chairman, the member entering the final two years of his term being elected chairman for that period.



West Texas well after shot

IMPERIAL MARINE DEPARTMENT

TORONTO, Ontario.—Imperial Oil Shipping Co. has been incorporated under dominion charter at Charlottetown, Prince Edward Island, capital $10,000,000. The incorporation represents the transfer to a subsidiary corporation of the marine department of Imperial Oil, Ltd.

NORTH TEXAS ASSOCIATION

WICHITA FALLS, Tex.—M. W. Blair has been elected chairman of the North Texas Oil and Gas Association Committee to nominate directors and prepare plans for the annual banquet in February. J. S. Bridwell, C. P. McGaha, T. O. Shappell and Fred Sehmann were named members of the committee.

THE MARKETS*

CRUDE OIL: ***Major price schedules unchanged with Continental Oil Co. continuing to pay prices posted January 4 in Mid-Continent and Rocky Mountain areas. Barnsdall Oil Co. paying Continental schedules for crude purchased in Oklahoma and Kansas. Crude more freely available in Mid-Continent since first of the year with Bureau of Mines reports for latter part of December showing substantial increases in stocks in Oklahoma and Kansas.***

REFINERY: ***Gasoline prices steady although weather conditions have slowed shipments from Mid-Continent and Middle Western plants. Kerosene generally scarce with considerable interrefinery buying at higher prices. All grades of fuels firm with distillate burning oils higher in several areas. Diesel fuel oils were advanced at Gulf Coast and Atlantic Seaboard points.***

TANK-WAGON AND SERVICE STATION: ***Standard of Kentucky completes program of withdrawing gasoline retail quotations in southeastern states. Scattered changes both up and down in posted dealer and gasoline service station prices. Kerosene tank-wagon prices higher at several points.***

FINANCIAL: ***First full week of new year finds oil stocks generally strong with sensational advances in several. Average of 30 representative stocks for week ending January 9: High, 42.97; low, 40.45; close, 42.15. Week ending January 2: High, 42.22; low, 40.08; close, 41.05.***

**Detailed information in Market Section.*

A.A.P.G. CONVENTION

LOS ANGELES, Calif.—The American Association of Petroleum Geologists will hold its twenty-second annual convention at the Biltmore Hotel, Los Angeles, on March 17, 18 and 19. Approximately 1,000 members are expected. Affiliated societies of economic paleontologists and mineralogists and of petroleum geophysicists will convene in separate technical sessions.

Frank A. Morgan will act as general chairman, and the general committee will include C. R. McCollom, G. C. Gester, Vernon L. King, R. W. Sherman, R. S. McFarland, W. B. Heroy, Frank R. Clark and Robert S. Moran.

Chairmen of the convention committees include: H. W. Hoots, technical program; A. A. Curtice, finance; Richard G. Reese, entertainment; E. F. Davis, reception; Roy M. Barnes, publicity and exhibits; Earl R. Noble, hotels; J. E. Elliott, registration; W. S. W. Kew, field trips; H. J. Steiny, transportation; Angus McLeod, golf.

MR. MIDGLEY HONORED

The laboratory quest culminating in the discovery of tetraethyl lead was described as a "fox-hunt" by Thomas Midgley, Jr., vice president of Ethyl Gasoline Corp., in an address January 8 when he received the William H. Perkin medal of the American section of the Society of Chemical Industry at the Chemists' Club, New York. The medal was presented to Mr. Midgley "for distinguished work in applied chemistry, including the development of antiknock motors fuels and safe refrigerants." Dr. Robert E. Wilson, vice chairman of the Pan American Petroleum & Transport Co., spoke on "The Life and Accomplishments of the Medalist." (Picture and sketch of Mr. Midgley's career appeared on page 45 of December 17 issue.)

NEW PRESIDENT OF PENOLA

J. W. Saybolt, a director of Standard Oil Co. of New Jersey, Standard Oil Co. of Pennsylvania and of Penola, Inc., has been appointed president of Penola. D. V. Stonaker, a sales manager of Penola, has been made vice president. Penola, Inc., manufacturer of specialized lubricants, was founded in 1885 by Pennsylvania Lubricating Co. and placed under the managership of Grant McCargo, now deceased. The first successful specialty was a compound of mineral oil and soap which had a higher melting point than ordinary commercial products then offered and was resistant to water and heat. The steel industry was the first major purchaser of special lubricants but the field now includes nearly every factory.

OIL LEADS IN LOUISIANA

NEW ORLEANS, La.—The oil and gas industry in Louisiana in 1936 became a $100,000,000 business to take the lead as the state's first industry. A preliminary survey showed at the close of 1936 approximately 9,600,000 acres in Louisiana were under lease and geophysical exploration, approximately one-third of the total land area.

The new year will witness a rapid expansion in exploratory work in all sections of the state, in the opinion of Dr. J. A. Shaw, director of the state conservation department's minerals division.

OPPORTUNITY FOR RETAILERS

Wilmer R. Schuh, president of the National Association of Petroleum Retailers, at his home in Milwaukee, where he is convalescing from an operation for appendicitis, says:

"The retailers of petroleum products have much to look forward to during the next year. They are more the masters of their own destinies than they have ever been before. They can make their own market and set their own profits. There is much to be done. Markets must be stabilized. Prices must be normalized. Costs must be realized. Bad practices must be ostracized."

SUCKER RODS

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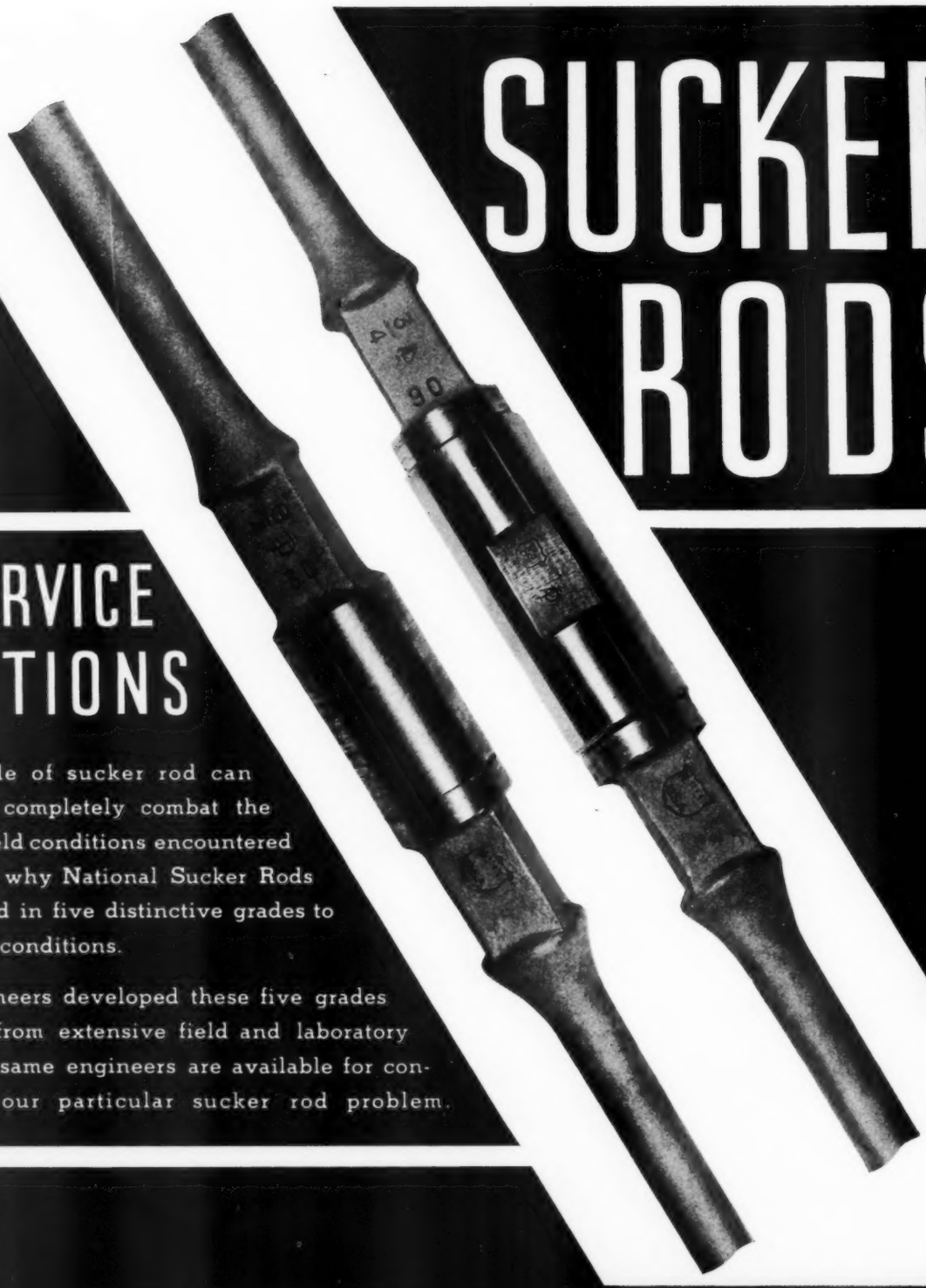
ALL SERVICE CONDITIONS



No single grade of sucker rod can efficiently and completely combat the many varying field conditions encountered today . . . that is why National Sucker Rods are manufactured in five distinctive grades to meet all service conditions.

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Oil News from Foreign Lands

Venezuelan Strike Broken

Production restrictions imposed by a strike of workers in the Lake Maracaibo district of western Venezulea are being gradually relieved and the companies are operating at rates of 50 to 70 per cent of normal. Although complete return to normal in the Maracaibo district may require weeks, the backbone of the strike appears broken. Under protection of government troops, several crews of foreign workers have been moved into the lake fields.

Several regular workers who had been on strike returned for duty January 4, but after being threatened by leaders failed to report January 5 and their jobs are being gradually filled by foreign personnel. Sabotage in the field has been curtailed to a minimum and generally speaking, conditions are reported "quiet."

The complete shutdown or only partial operation of Maracaibo fields during the last half of December exacted its toll on production and endangered normal supplies of fuel oils to the United States and certain foreign countries. Markets normally supplied by the Dutch West Indies in Europe were cared for during the disruption in Venezuela from the United States and forced supplying companies into the open market for a part of their requirements both at home and abroad.

Past ability of Maracaibo fields to "make up" shut-in production probably will be called on in January and February to offset the interruption of normal shipments. No protracted ill effect or outside purchases to meet requirements normally supplied from Venezuela is anticipated, although operations are still no more than 60 per cent of normal.

Petroleum imports to the United States which come chiefly from Venezuela dropped to about 70,000 bbls. daily for the past two weeks. For the week ended December 26, 1936, the imports at Gulf ports were 188,714 bbls. and for the week of December 19, 191,571 bbls. Companies normally drawing on Venezuela production for part of their fuel oil requirements were forced into the open market for part of their immediately needed supplies. This probably contributed somewhat to recent fuel oil price increases on the Gulf Coast and at North Atlantic refineries.

With fuel oil supply and demand in fine balance, the three weeks of disrupted operations may at least tend for a stiff market through remainder of January and February. December production in Venezuela dropped more than 4,000,000 bbls. behind November. The figures in the accompanying table do not reflect the true calendar month's production for December as (Caribbean), Venezuela Oil Concessions and Colon figures are for a four weeks' period ended just before Christmas. The last few days of December during which Royal Dutch-Shell producing operations were at a complete standstill would, therefore, materially reduce the daily average and total for the calendar month.

On the basis explained, Venezuela production for December totaled 9,726,297 bbls., a daily average of 313,657 bbls., a new low for the past two years, even lower than June, 1936, which was also restricted by a strike of field workers.

None of the fields outside of the Lake Maracaibo district was materially affected by the strike, although Quiriquire declined slightly due to normal cessation of work during holidays. Pedernales, appearing for the second consecutive month on the production report, approximately doubled its November output supplying 1,682 bbls. daily.

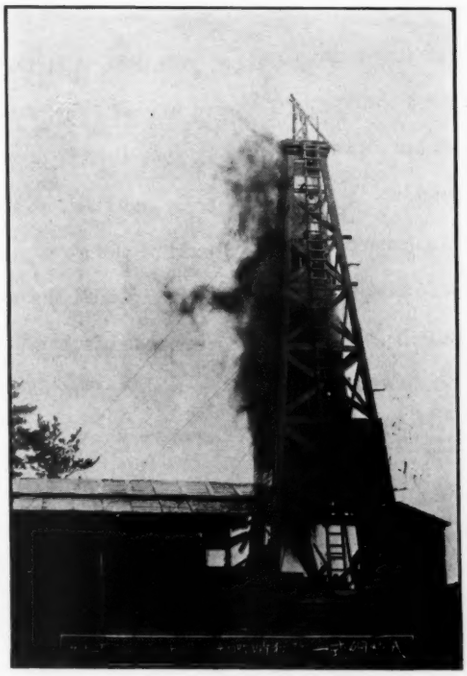
The sharp drop in December production cut Venezuela's 1936 total to approximately 153,314,971 bbls., or about 8,000,000 bbls. short of the normal estimate.

Any unforseen delay in returning operations in Venezuela to normal rates may bring a temporary increased demand for U. S. crude. Lago plant at Aruba and Shell refinery in Curacao, Dutch West Indies, are among the largest in the world and supply a large part of the demand of these companies outside the United States. The Lago plant at Aruba is reported to have been processing nearly 200,000 bbls. of crude daily during the past few months, although its rated capacity is only 160,000 bbls. Curacaosche Petroleum Industrie Maatschappij (Shell) has a processing capacity of 170,000 bbls. daily. Under restricted producing conditions in Venezuela neither of the two Dutch West Indies refineries can long continue normal operations without augmenting crude supplies from other countries. The logical source for Dutch West Indies refining stock, if Venezuela trends are reversed, is the United States where both large companies have producing and transporting affiliates.

Due to the possible bearing of protracted labor difficulties in Venezuela on United States crude demand, oil men are watching South American developments carefully for a straw on Mid-Continent prices. In the event Shell and Lago are compelled to call on their affiliates or the open crude market in the United States for oil to process in their Dutch West Indies refineries, it would unquestionably influence domestic crude prices.

The possibility of any direct connection, however, is remote in view of the past week's developments in Venezuela. With support of government officials and troops, foreign workers may be used indefinitely in manning Maracaibo producing properties. However, the operating companies probably will not prolong the difficulty by maintaining foreign personnel in the field longer than necessary. Foreigners imported for field work probably will be returned as rapidly as regular employes report for duty.

Several interesting wildcat tests in eastern Venezuela are nearing a showdown. The plugging back job continues in Mene Grande Oil Co., C.A. (formerly Venezuela Gulf) No. 1 El Tigre, carried to 6,423 feet. The company is continuing with the liner cutting job and washing its No. 1 Merey, an old hole drilled two years ago which has been standing mudded since drilling halted. Standard Oil Co. of Venezuela No. 3 Temblador is drilling around 4,800 feet and its No. 2 El Salto (Pantapec) is drilling at about 4,300 feet.



Oil well, Yabase district, near Akita, Japan. Development in 1935-36 accounted for much of recent increase in Japan's domestic output.—(Japan Photo Service)

VENEZUELAN CRUDE PRODUCTION

By fields—	Dec., 1936 production	Dec., 1935 production	Daily avg. Dec., 1936
Lagunillas	4,825,759	6,845,616	155,670
La Rosa-Ambrosia	1,372,474	1,962,359	44,273
Mene Grande	1,029,400	1,620,840	33,206
El Mene	52,620	66,100	1,697
Tarra	307,000	430,560	9,903
La Paz	11,500	12,500	377
Concepcion	72,600	109,800	2,342
Cumarebo	224,355	172,403	7,237
Quiriquire	1,778,462	1,856,242	57,370
Pedernales	52,127	.....	1,682
Total	9,726,297	13,076,420	313,657
By companies—			
Lago Pet. Co.	2,637,597	3,655,463	85,084
Venezuela Oil Con.	2,844,300	3,504,600	91,752
Standard of Venezuela*	2,208,291	2,475,857	71,235
Caribbean	1,029,400	1,620,840	33,206
Colon	307,000	430,560	9,903
Mene Grande†	591,000	1,323,000	19,065
British Controlled	52,620	66,100	1,697
North Venezuela Pet. Co.	56,089	.....	1,785
Total	9,726,297	13,076,420	313,657

*Includes Creole's share in Lagunillas and La Rosa.
†Formerly Venezuela Gulf Oil Co.

Daily Average by Months

	1936	1935
December	313,657	421,820
November	444,724	414,832
October	439,357	422,175
September	453,217	422,114
August	436,617	414,700
July	433,329	415,532
June	393,328	424,411
May	427,195	401,743
April	427,441	382,378
March	418,905	371,900
February	431,236	390,020
January	417,179	405,156

Total Production by Months

	1936	1935
December	9,726,297	13,076,420
November	13,341,670	12,444,986
October	13,620,067	13,087,425
September	13,596,476	12,664,343
August	13,538,049	12,860,955
July	13,433,173	12,883,045
June	11,799,830	12,732,330
May	13,242,973	12,454,033
April	12,823,230	11,471,340
March	12,986,055	11,523,900
February	12,074,602	10,920,560
January	12,932,549	12,559,836
Total	153,314,971	148,736,173

Production Shows Rising Trend

Iran's October crude oil production of 672,000 tons, or 4,704,000 bbls., was 31,000 tons more than reported in September, but was still short of the higher average established for other previous months since May, 1936. In comparison with October, 1935, however, the 1936 production of 4,704,000 bbls. was higher by 595,000 bbls. and probably more accurately reflects Iranian petroleum conditions than the comparison with record demand months of the last summer's motoring season.

Production of 672,000 tons in October boosted 1936 total for 10 months in Iran to 6,829,000 tons, or about 47,803,000 bbls., compared to 6,125,000 tons and 42,875,000 bbls. in 1935.

Production by months from January through October in 1936 and 1935 is shown in the following table:

Month—	1936	1935
January	661,000	630,000
February	640,000	587,000
March	663,000	697,000
April	616,000	584,000
May	768,000	561,000
June	723,000	600,000
July	696,000	607,000
August	731,000	662,000
September	641,000	610,000
October	672,000	587,000
Ten months	6,829,000	6,125,000

the OIL AND GAS JOURNAL

PRODUCING REFINING NATURAL GASOLINE PIPE LINE

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Must Be Alert

For the first time in several sessions Congress has opened without a definite threat to the oil industry in the background. Two items dealing with oil are on the legislative program but both are desired by the industry, extensions of the Interstate Oil Compact Act and the Connally "hot" oil law, enacted for the purpose of assisting the industry to run its own business. At the start of the session there is nothing to indicate any intention to interfere with that set-up, providing it continues to work.

Factionalism within the business itself appears to have been reduced to a minimum with the growing realization that problems can be worked out more satisfactorily through cooperation than by strife.

The situation at Washington confirms previous indications from persons high in the counsels of the administration that nothing further will be attempted in regard to federal control of the oil industry so long as it keeps its house in order.

This is unquestionably an acknowledgment of the excellent record of the industry during the past year when, in a period of rapidly advancing general prices, the oil industry has made only a nominal advance in consumer quotations, although at the same time it increased its supply ten per cent to meet the greatest demand in history. It has widened employment, and further strengthened its position as paying the highest wage scale in any major industry.

In short, the oil industry has given an outstanding example of voluntarily promoting the principles of recovery. It has balanced production with demand, conserving an irreplaceable natural resource. Through increased technological efficiency it has enlarged the yield of its products. Despite rising costs, in taxes, labor and materials, it has managed to supply an unexpected record in demand at reasonable prices.

But, if on that record, the oil industry has a right to expect relief from special legislative harassment, it is nevertheless directly interested with all other industries and business in the handling of the financial problems of the government, the growing expense of administration, and the unbalanced budget. It is particularly concerned in the practical problem of distributing this increasing burden of taxation, since it has long shouldered very much more than its share.

Although it may not have to combat renewed efforts for federal control the oil industry must still be alert against any attempt to add to the excessive proportion of taxation it already bears. It is worthy of note in that connection that the new budget recommends the continuance of the "emergency" gasoline and lubricating oil taxes which were to be "temporary."

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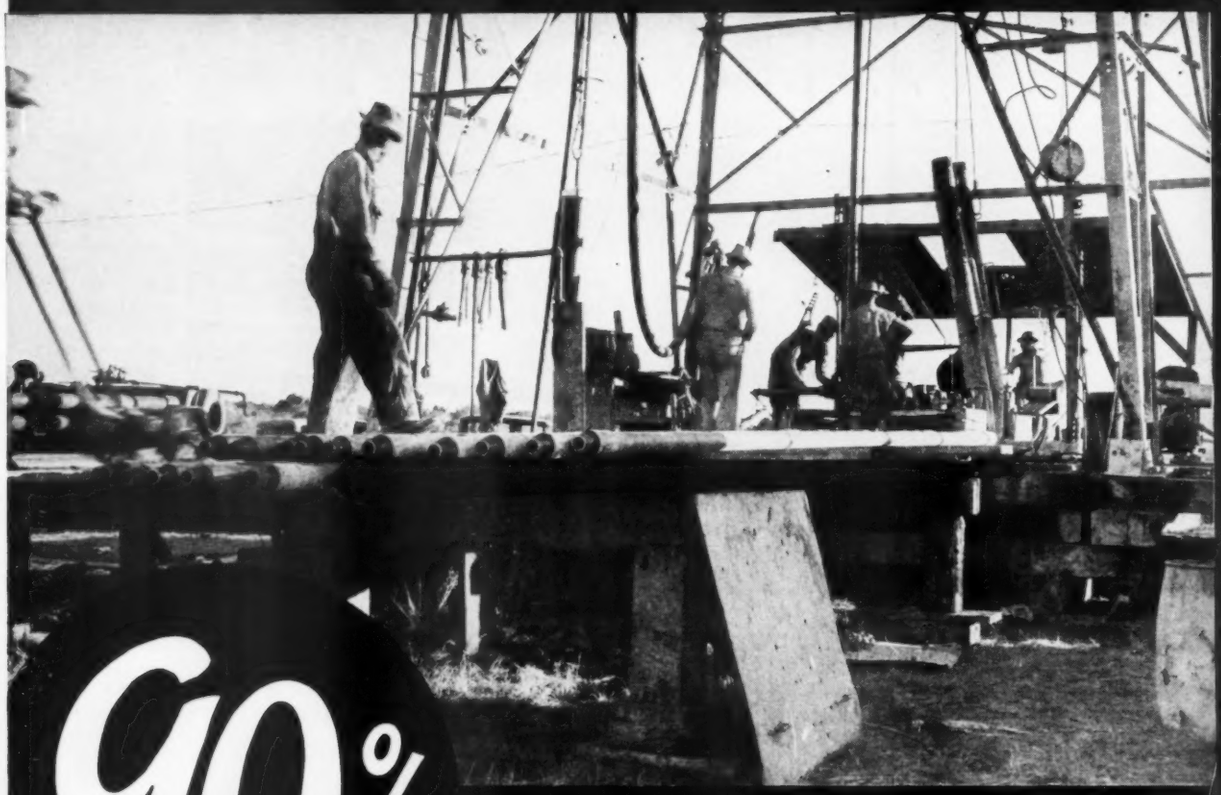

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in the Lopez & Peters Area . . . is the record of TWO-3" CAMERON CORE BARRELS operated by Mills Bennett Production Company

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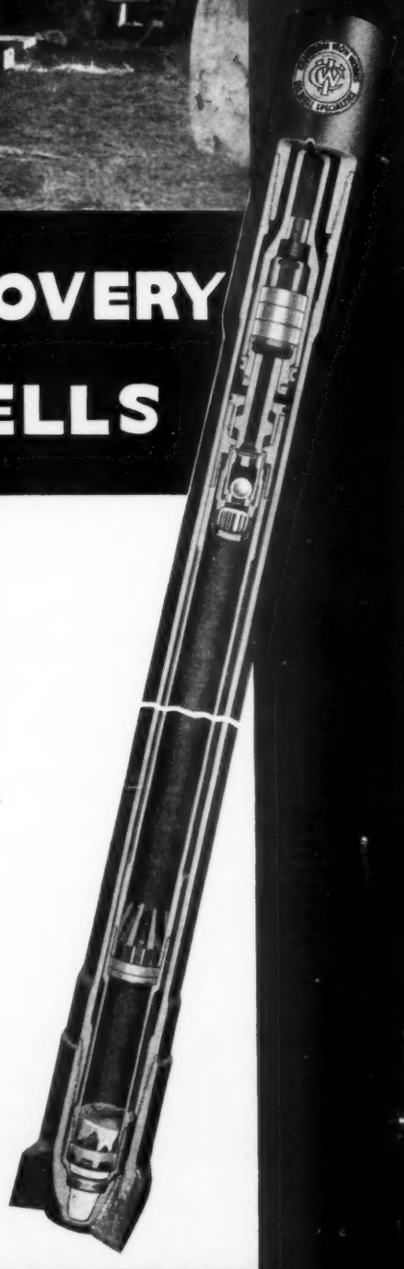
The average footage cored per run was 10 feet. Coring started in lignite and shale cap above producing sand, then took in alternate hard and soft sand strata. No trouble was experienced in going from hard to soft formations, or vice versa.

Mills Bennett Production Company's highly satisfactory experience with the Cameron Rotary Core Barrel reflects accurately the results that may be obtained by any operator who will use a Cameron Core Barrel in accordance with the simple operating instructions furnished with each barrel.



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Central Distillation Achieves Operating Economy for Skelly

By D. H. STORMONT

By centralizing its final-fractionation equipment in one plant, Skelly Oil Co. has been able to greatly reduce manufacturing costs, lower evaporation losses and increase the overall operating efficiency of its four natural gasoline plants in the South Burbank field of Osage County, Oklahoma. The setup furthermore enables the company to center all technically trained men in one plant as well as reduce the amount of rectifying equipment, storage and loading facilities.

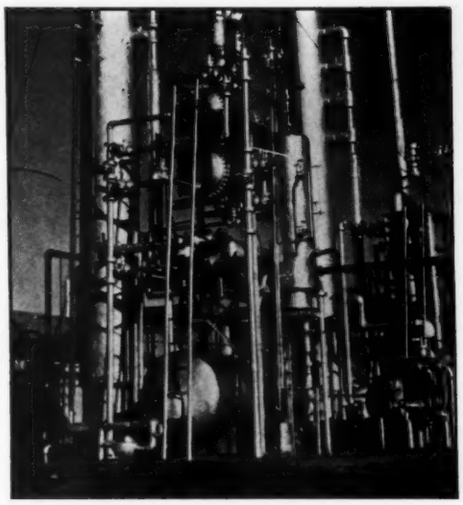
When Skelly constructed its first gasoline plant in this field in 1934, the Fairfax No. 1, only five compressors were required to handle the volumes of gas then available for processing. Subsequent developments in the field has increased the total supply to approximately 30,000,000 feet, which necessitated greatly enlarging the No. 1 plant and recently a new plant, Fairfax No. 2, was placed in operation. Also some 5,000,000 feet of casinghead gas produced in the north edge of the field, this amount being included in the 30,000,000 feet, is taken to the Carter Nine or "Naphtha Plant" in the old Burbank field for processing.

OPERATION OF NEW PLANT

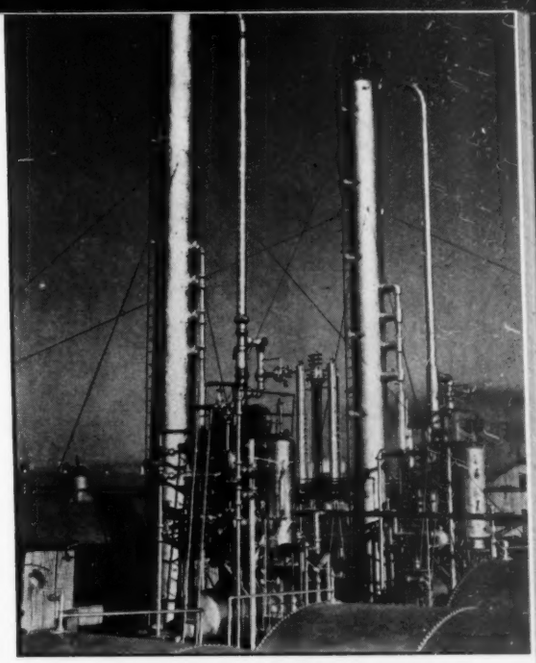
The Fairfax No. 2 plant is located on the west side of the unitized block, north of the No. 1 plant, and consists of ten 2-cycle, gas-engine driven compressors; five of which are equipped to boost the pressure to approximately 270 pounds for transferring the residue to the Carter repressuring plant at Little Chief. It is operated as an oil-absorption plant, the gasoline being recovered after the second stage of compression. Daily capacity of the plant is approximately 10,000,000 feet, from which about 12,500 gallons of raw natural is extracted daily.

Incoming gas from the traps and separators enters the low-compression cylinder and is boosted to approximately 50 pounds and after inter-cooling and scrubbing is compressed to 250 pounds. The gas is then again cooled and scrubbed before passing to the absorber, practically all the condensed water vapor being removed before the gas reaches this tower. Residue gas is then picked up by the high-pressure cylinders and compressed to about 275 pounds, at which pressure it is piped to the Carter repressuring plant at Little Chief. Here the gas is boosted to approximately 1,200 pounds and returned to the producing formation in the field.

Operation of the Fairfax No. 1 plant is similar to that of the No. 2, the plant containing 15 units, 5 of which are twin four-cycle gas-engine driven compressors and the others, twin compressors. The plant has a processing capacity of 15,000,000 feet and produces, at the present, some 23,000 gallons of raw 100-gravity gasoline daily. As in the No. 2 plant, a low intake-pressure is maintained in order that a maximum volume of the desirable hydrocarbon fractions will leave the crude at the separator and be available for processing. The gas is then compressed in two stages, the gasoline fractions removed and the residue piped to the unit booster station for repressuring.



Accumulators and coolers used in conjunction with the Lyman plant solvent towers



Solvent towers in the Lyman plant

The Lyman plant operates as a straight compression plant with a vacuum of 22 inches being held on the main line from the field. Two-stage compression is employed, the low-compression cylinder boosting the pressure to 40 pounds. After passing through inter-coolers and scrubbers the gas is compressed to about 300 pounds and passed through butane-expansion coolers, held at a temperature of 50° F. the year round. The gas is then piped to the recovery column. Approximately 14,000 gallons of 100-105 gravity gasoline is being produced daily at present in this plant.

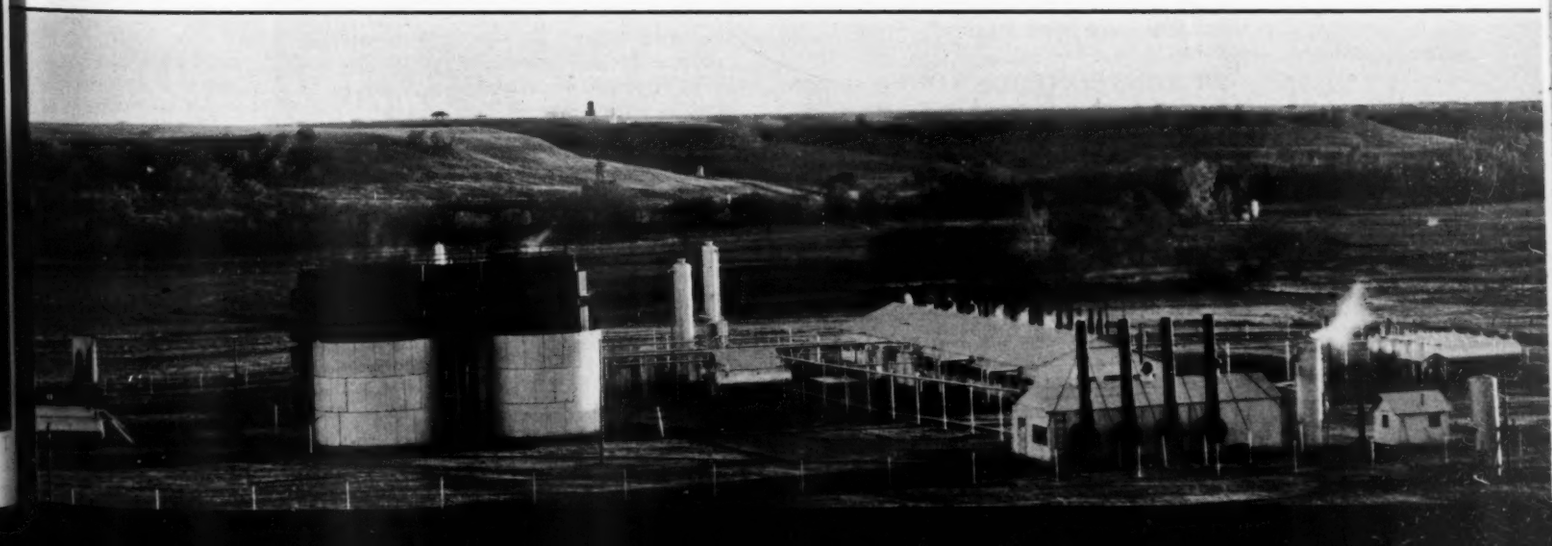
RAW GASOLINE PIPED TO LYMAN

The unstabilized gasoline produced in each of the three other plants is stored for about one day, to allow the water to settle out, and is then piped to the Lyman plant where it is received in three 30,000-gallon storage tanks. A 3-inch welded line transports the raw natural, orifice meters being installed at each of the three plants and at the receiving plant. The No. 1 Fairfax is farthest from the Lyman plant, 13 miles; the No. 2 plant being 12 miles distant and the naphtha plant only 5 miles from Lyman. Under the present schedule of operation, about 70,000 to 75,000 gallons of raw gasoline are turned into the line daily.

From the storage tanks the raw gasoline is pumped to the fractionating towers with a back pressure of 125 pounds being held on the tanks to reduce vaporization losses.

The fractionating equipment is of conventional design and consists of a depropanizing, debutanizing and de-ethanizing-dehydrating towers with the necessary reboilers, condensers and heat exchangers. All towers are 55 feet high and contain 36 plates. Automatic temperature and flow con-

Skelly Oil Co. No. 2 Fairfax in the South Burbank field. Raw natural gasoline extracted here is piped to the Lyman plant



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WIGGINS PONTOON ROOF tanks are highly efficient in stopping evaporation loss from any oil that does not boil at ordinary atmospheric temperatures. Both breathing and pumping losses are eliminated because there is no space above oil for an air-vapor mixture to accumulate. This same feature contributes a resistance to fire hazard which is recognized and approved by the Underwriters' Laboratories.

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Detroit	1514 Lafayette Building	Los Angeles	1423 Wm. Fox Building

FABRICATING PLANTS in Birmingham, Chicago, and Greenville, Pa.

trols are used throughout thus insuring uniform control of operation and products. Charging capacity of the system is approximately 100,000 gallons, although at present only some 75,000 gallons of 100 to 105 gravity unstabilized gasoline are being charged daily to the debutanizing tower.

Normal operation of the fractionation system is as follows: The raw gasoline is pumped from storage through the primary heat-exchanger to the depropanizing column which is operated at 300 pounds pressure. Propanes and lighter are taken overhead, condensed and used as reflux; a reflux-ratio of approximately 3 to 1 being maintained. Separation of the propane and lighter is obtained by carrying a reboiler temperature of 272° F. and a column-top temperature of about 140° F. Reflux in excess of the amount required to control the temperature of the column top, the amount being controlled by a regulator actuated by a liquid-level controller on the accumulator, is pumped to the de-ethanizing tower. Here a finished propane is removed at the bottom.

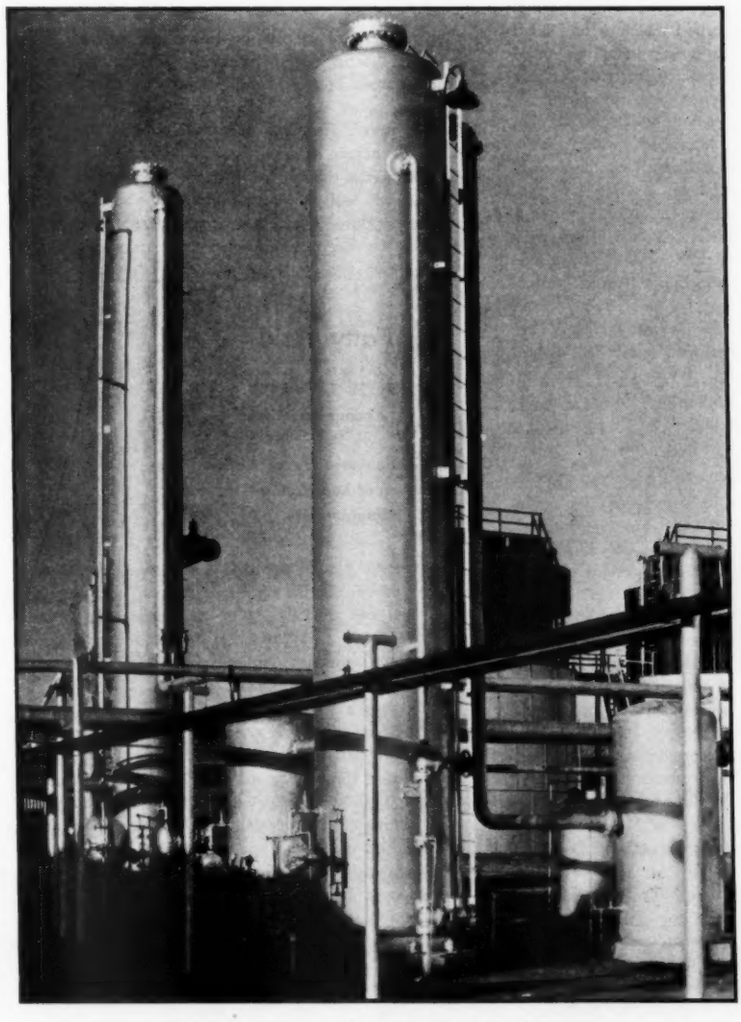
OPERATION OF BUTANE TOWER

A depropanized gasoline is taken from the bottom of the primary tower, passed through the primary heat exchanger, and charged to the debutanizing tower. Separation of the pentanes and heaviers from the butanes and lighters is accomplished by maintaining a reboiler temperature of 280° F., a column pressure of 140 pounds and a top-column temperature of 165° F. A reflux ratio of approximately 5 to 1 is used. Finished butane is taken overhead, cooled and admitted to storage. By adjusting the pressure on the column, the temperature of the reboiler, the temperature at the top of the tower, and the temperature of the feed, gasoline of various vapor pressure may be obtained as a bottom product. Or, if desired, the bottoms may be pumped to storage and used as charging stock for the manufacture of special solvents.

In manufacturing solvents and other heavy molecular-weight hydrocarbons, the butane-free bottoms are pumped from storage and batched through the solvent fractionating towers.

All grades of natural gasoline from 12-pound to 30-pound material are manufactured in the Lyman plant, as well as butanes, propanes, solvents and C.P. ethers. Therefore a great amount of storage facilities is provided to avoid contamination. Extreme care is also exercised in handling the solvents to prevent contamination. None of the solvent storage tanks are direct connected; hose connection being provided to connect the tanks to the lines laid to a point nearby. This is also true of the loading lines.

Two 1,000,000-gallon tanks are provided at the Lyman plant for storing gasoline prior to tendering it to the Great Lakes Pipe Line Co. The gasoline is then transported to the Kansas City or Minneapolis terminals where it is either blended by Skelly into motor fuel or disposed of as natural gasoline.



Absorption towers in the Skelly No. 2 Fairfax plant

Develop Formulas for Finding Resistance to Fluid Flow

C. H. Keulegan and K. Hidling Beiji of the hydraulic laboratory of the National Bureau of Standards, Department of Commerce, have developed formulas for computing loss of energy in fluids flowing through curved pipes, it has been announced. Such formulas have not been available heretofore, it having been necessary to base calculations on experimental coefficients which were extended in either direction from the actual test conditions in order to meet the requirements of the particular problem in hand, according to the Standards Bureau.

In commenting on this work, Messrs. Keulegan and Beiji explained that even when a fluid flows through a perfectly straight pipe there is always a loss of energy resulting from friction between the fluid and the wall of the pipe which manifests itself as a drop in pressure. A bend in the pipe line increases this drop, because the stream filaments are no longer straight lines, but wind and twist about, producing eddies in the flow which increase the frictional resistance, it was stated. Consequently, the existence of bends in a pipe line either increases the cost of pumping or makes necessary the use of a larger and more expensive line than would be the case if the pipe were straight. Hence a knowledge of the laws of pressure loss at pipe bends has a definite economic importance. It makes possible the selection of the most efficient bends for any particular condition and permits the designer of pipe line to balance increased cost of pumping against cost of the line to obtain the best economic result.

Such information has many and varied applications, for example, in the flow of steam in power and heating mains; the flow of oil in pipe lines, of water in the mains of large cities, in the supply systems of buildings and in large irrigation conduits; and to mention a widely different application, the flow of refrigerants in cooling coils, according to the commerce department.

While the work of Keulegan and Beiji was done on three-eighths inch brass pipe, the formulas which they have devised are not limited in this respect, but can be used for pipes of any size. The formulas are limited, however, to flow at velocities below the critical velocity at which the flow becomes turbulent, it was stated.

Gasoline Association Changes Date of Annual Meeting

The Natural Gasoline Association of America will hold its 1937 convention April 28-30 at the Hotel Tulsa, Tulsa, according to a recent announcement by William F. Lowe, secretary of the association. While this is a somewhat earlier date than usually chosen for this annual meeting, the committee in charge of arrangements felt that moving back up the calendar some two or three weeks would insure a date ahead of the uncomfortably hot weather so usual in late May.

Members of the convention program committee, recently appointed by T. R. Goebel, Shell Petroleum Corp., president of the association, are: D. E. Buchanan, Hanlon-Buchanan, Inc., chairman; S. C. Carney, Phillips Petroleum Co.; R. A. Carter, Continental Oil Co.; B. D. Dow, Indian Territory Illuminating Oil Co.; H. W. Harts, Natural Gasoline Corp.; W. E. Reardon, Coltexo Corp., and D. W. Wolfe, Standard Gasoline Co.

Operation of Field Trucks

Discussing the problems of field truck drivers John D. McCamey of the Carter Oil Co. made the following conclusion as to the essential factors in efficient operation of trucks in his talk given before the twenty-fifth National Safety Congress held in Atlantic City. N. J.:

1. A thoroughly competent truck foreman.

2. Truck drivers, preferably married, who have been trained in your own service and are old enough to carry responsibility. On our heavy duty trucks no limit is set as to age, but it is found that 30 years or above would fit the majority.

3. Furnish these men with the best equipment available (that does not necessarily mean the most expensive equipment). Go to the field to check the service on chains, binders, snatch blocks, and other regular equipment.

4. See tnat the truck foreman is informed as to changes in safety rules or safe practice recommendations.

5. Have as few rules as possible to cover the subject adequately.

Operator of Marine Terminal Solves Salvaging Problem

The salvage of oil spills and leakages, a problem which has plagued operators of marine petroleum terminals, has apparently been solved with an invention of an engineer of Texas Co.'s Wilmington, Calif., refinery. The device is a group of 2 by 8 timbers, each 20 feet long, and joined together by flexible belting hinges. Doubled together accordion-fashion, these connected timbers will be kept at the top of an inclined platform, the lower end of which enters the water alongside the loading terminals. When a spill occurs, the timbers will be released by a trigger arrangement, and after sliding into the water they will be towed around the oil-polluted area. The lost oil will be recovered by the suction pipe method already in use.

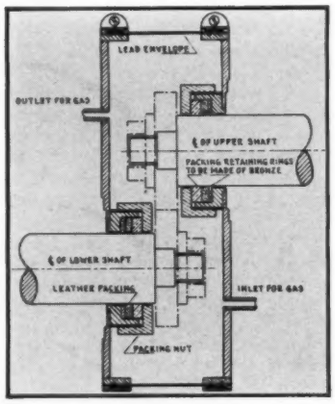
First of the new booms is already under construction and will be placed in service at the Texas docks about January 15. Coast Guard officials, who have been conducting a vigorous oil-pollution prevention campaign for the past year, are enthusiastic in their declaration that the device will effectually stop a large proportion of harbor pollution.

TECHNICAL ABSTRACTS

Effect of Lubricants on So-Called Brinelling of Ball and Roller Bearings

By J. O. ALMEN
General Motors Research Laboratory

Before Chicago meeting of National Association of Lubricating Grease Manufacturers, Inc.



In an effort to determine the cause and to find a practical remedy for the so-called "brinelling" of ball and roller bearings, particularly in freight-car and truck shipments of automobiles, an investigation was conducted which the author describes. Several theories and supporting data as to the causes of brinelling, damage caused in shipment consisting of indentations in the bearing raceways opposite each of the balls or rollers on the loaded side of the bearings, are presented by the author and illustrated by typical examples. One theory given is that of G. A. Thompson who concludes that "after considering such possible effects as electrolysis, absorbed moisture and local heating, that the damage was caused by cohesive forces acting in a tangential direction lifting out particles of metal so small that they oxidize instantly." This theory is supported by the results of passing a glass bead on a plate glass surface. Examination by means of a lenz reveals scored dotted lines with even the lightest touch of the bead to the glass plate. The theory of Dr. Max Fink, who reaches the conclusion that the type of wear under discussion is the result of the formation and rubbing off of successive oxide films, is also discussed.

Having established a wide background through examination of all available samples of this form of damage, a laboratory test machine was designed which was sufficiently versatile to permit wide variation in load, speed of operation, amplitude of vibration and temperature. Test specimens used were commercial ball thrust bearings, and were treated so as to experience the same type of damage occuring in service. The bearing indentations produced by the machine closely resembled those found in practice and the region of damage was found to be surrounded by rust just as occurs in practice. Tests were run at various loads, with a large variety of oils and greases and tests in which protection against air was attempted by other means than oils and greases.

The Effect of Some Fatty Acid Derivatives on Lubricants

By A. W. RALSTON
Armour and Company.

Before Chicago Meeting of National Association of Lubricating Grease Manufacturers, Inc.

The use of derivatives of fatty acids for the improvement of lubricating greases is a field of research which offers unusual promise. Whereas an art of long standing has been built around the use of fatty acids themselves, soaps and also the fats both pure and chemically treated, little is known concerning the effect of the numerous compounds which it is possible to synthesize using the fatty acid molecule as the starting point. The author discusses some fatty acid derivatives which were recently synthesized and the lubricating properties of such compounds, either by themselves or when mixed with hydrocarbon oils or greases. The method of synthesis is given and a discussion of the lubricating properties of such derivatives as nitriles, ketones, amides, and thioamides.

He states that nitriles are extremely stable at reasonable high temperatures, can be cheaply and easily prepared from fatty acids, are very soluble in all types of lubricants, are noncorrosive to metallic surfaces and possess the property of oiliness. By virtue of their ability to impart oiliness to an oil or grease, nitriles show promise as substitutes for fatty acids or fats where increased oiliness is desired. When the nitriles are heated for prolonged periods of time in the presence of compounds promoting polymerization, they are polymerized into substances having the appearances and viscosities of heavy mineral oils. Results of the author's work with ketones shows that where both the attached hydrocarbon groups are either aliphatic or aromatic, the ketones are not soluble in mineral oils to any appreciable extent. However, if one group is aliphatic and the other aromatic high molecular weight ketones are very soluble in mineral oils and greases and impart interesting properties thereto. Ketones containing phenoxyphenyl were found to have the property of gelling mineral oil to which they are added, turning to an oil under slight pressure and reverting to a grease when the pressure is released. Ketones prepared from thiophene when dissolved in an oil or grease impart high-load carrying capacities. All the ketones were resistant to oxidation, were stable at high temperatures and imparted oiliness to greases or oils to which they had been added.

Accelerated Oxidation Test and Other Recent Developments for Evaluating Lubricating Greases

By H. A. McCONVILLE
General Electric Co.

Before National Association of Lubricating Grease Manufacturers, Inc., Chicago, Ill.

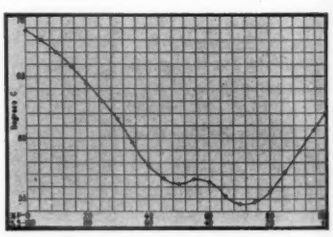
In his paper the author discusses certain tests such as the accelerated oxidation test and other tests used in checking and evaluating greases. The equipment used in making the accelerated oxidation test is described. Since the use of this apparatus has now been extended to conducting tests on the behavior of greases at sub-zero temperatures, it had to be mounted in a suitable box. Following the description of the procedure followed in making the oxidation test he discusses the effect of light on oxidation, stating that the action of light speeds up the reaction more than any other factor. This is borne out by his observation that some greases packed in glass containers oxidize badly when only exposed to sunlight, this tendency being overcome when dark glass containers were used.

The storage stability test as developed by Norma-Hoffman Bearings, Inc., is described and results obtained by this procedure check very well with observations made on bearings packed with grease and exposed in a storage room for 15 months. Indications that the grease was no longer suitable for ball-bearing lubrication were a noticeable rancid odor, evidence of separation of the oil from the soap, or a marked increase in roughness noticed when the bearings were turned by hand. The test as deveolped by Mr. McConville was found to agree with the Norma-Hoffman method in rating the same greases highest. The apparatus used for measuring the stiffness of grease is also used to determine the lowest temperature at which a particular grease can be used in a motor without giving trouble in starting. Method of making this test is described and he states that results obtained show that the lowest temperature at which a grease can be successfully used is almost entirely a function of the freezing characteristics of the oil used.

Fatty Acids

By M. L. SHEELY
Armour and Co.

Before Chicago meeting of National Association of Lubricating Grease Manufacturers, Inc.



The various fats, in terms of their fatty acid content, are classified by the author into four classes and the characteristics of each group discussed. The advantages found in the use of fatty acids, and especially fractionated acids, for lubricating greases are given as follows: (1) Control of fat composition, (2) Ease of saponification, (3) Completeness of saponification, (4) Great yield of anhydrous soap and (5) Greater uniformity of finished product.

In discussing methods of separation Mr. Sheely states that while analytic methods for separation of various fatty acids from fats and oils has been fairly definitely worked out, the commercial resolution of mixed acids into pure acids has not as yet been completely solved. In considering the fatty acid composition of the tallow base from which "stearic acid and commercial oleic acid are made (these being manufactured by crystallation and separation by pressing), he explains that it is evident that the stearic acid component is essentially a mixture of pure stearic and palmitic acids. Mixtures of the two oils form an eutectic curve, as shown in the accompanying picture. (Source—Rayner and Campbell, J.S.C.I., 149, 1928). The crystallation process, he states, gives rough separation of saturated and unsaturated fractions, but does not produce acids of great purity. His opinion is that, as in his own experiences in the manufacture of soap from fractionated acids, the grease industry may find useful and unusual properties in many fractionated acids, not only when used alone, but when combined in other proportions that have not hitherto been available in the natural fats.

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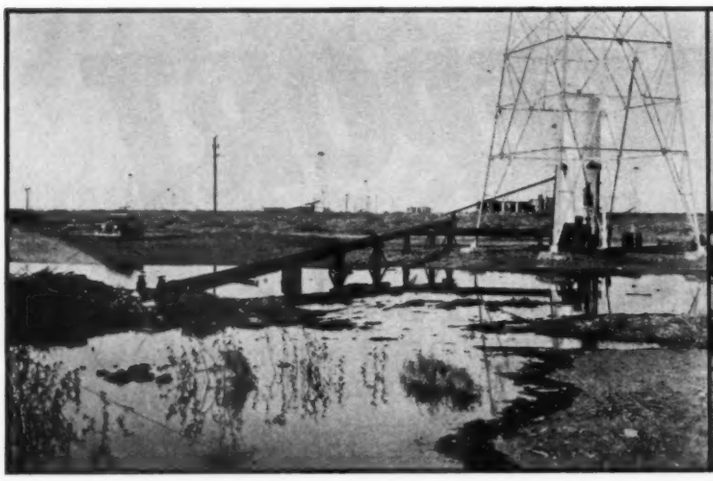

West Texas water knock-out in use on a flowing well in the Hendricks field. Sulfur water is spraying from the end of the pipe

Natural water disposal pit in the Hendricks field of Winkler County, Texas, with treating plant shown in the background

Hendricks Wells Pump 99 Per Cent Water and Show Profit

By T. P. SANDERS

Wells in the Hendricks pool of Winkler County, Texas, are producing fluid of which less than 1 per cent is oil, as a field average, and still a profit is obtained from operating these wells. What is believed to be the largest volume of fluid ever taken from a pumping well was 11,500 bbls. per day. This phenomenal production was from a Hendricks well, and only 14 bbls. of the total fluid produced was oil. Technically this cannot be called pumped production, since the chief operation of the pump was undoubtedly that of agitating the fluid so that formation energy flows the well by heads. The casing pump used would have had to have a volumetric efficiency of 600 per cent to pump this production. This is in a way typical of Hendricks production. The exceptionally high fluid-level makes it possible to handle large volumes of water profitably.

The Hendricks field was discovered in 1925 and most of the development work took place in 1926. About 650 wells were drilled. The oil accumulation was found in the Permian Big lime at a depth ranging from 2,700 feet, for the top of the pay at the highest structural point, to 3,100 feet for the water level below the oil zone. Probably no one well encountered greater than a 150-foot section of oil-bearing strata, the average thickness of this zone being 60 feet; part of which was made up of shale breaks and tight, unproductive lime.

The productive strata are divided from top to bottom into three zones. Many of the early wells were completed in the first zone, and were only drilled through the lower zones when excessive quantities of water in the upper zone made it appear necessary. Since 7-inch casing had been set above the pay in completing the wells, a 5-inch string was usually run to case off the water in the upper zone. This made it possible to produce pipe-line oil from the lower zones. Later, when the lower zones went to water, the 5-inch strings were pulled and production was continued from all of the zones.

Structurally, the Hendricks field is situated on the western edge of the Central Basin Platform, which is an anticlinial feature in the West Texas Permian Basin. Practically all West Texas and southeastern New Mexico pools are situated either on the western or the eastern edge of this platform, and the search for more oil accumulations on this structure has led to considerable activity now in progress. The Big lime, which is the reservoir formation for practically all of these fields, is commonly very porous in productive areas. For this reason initial production of Hendricks wells was large and water encroachment took place rapidly.

Of the 613 wells drilled in this field, 394 are now producing. Of these about 50 are still flowing, 50 more are on gas lift, 115 are pumped with casing pumps, and the remainder are pumped with large tubing pumps. The flowing wells, like the pumping wells, produce practically all water, but because of the high hydrostatic pressure in the formation, they flow large volumes. In 80 per cent of the pumping wells the fluid stands up within 20 feet of the surface. The average fluid level is probably about 150 feet from the surface and one well has been found where the fluid only rises to within 1,200 feet of the surface. In a few of the flowing wells oil will accumulate in the casing if the well is shut in for a while. By opening these wells periodically, good sized flows of oil may be obtained with very little water. It is rare, however, that it pays to operate wells in this manner.

Due to the excessive water production it seemed certain several years ago that most of the wells would have to be abandoned in a short time. However, ways of handling large volumes of fluid, such as the use of the casing pump, were adopted which resulted in prolonging the lives of most wells. The casing pump is installed in wells without tubing. It can be either a plunger pump or a cup-pump. The pump is encased in a shell and is lowered into the well on the sucker-rod to be used for pumping. A combination tubing packer and anchor engages the casing at the desired depth. A synthetic-rubber packer and a mandrel at the top of the pump serve to seal off the space between the pump and the casing.

Experience gained in the use of these pumps in this field since May, 1934, has led to a clear understanding among the operators as to what parts and methods of operation give the best results. Fabric cups, .015-inch undersize, are commonly used because it has been found full sized cups cause too much friction on the down-stroke which bends the sucker-rods above the pump. This is not important with tubing pumps, since the rods are confined by the tubing and thus prevented from bending. Stainless steel drops and seats are used since the water produced is sulfurous and contains

(Continued on Page 55)

Water knock-out in Hendricks field, the flowing well being shown to the left with no derrick

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Influence of Production Practices on Gravity

By ROBERT R. BOYD
Production Engineer, Richfield Oil Co. of California*

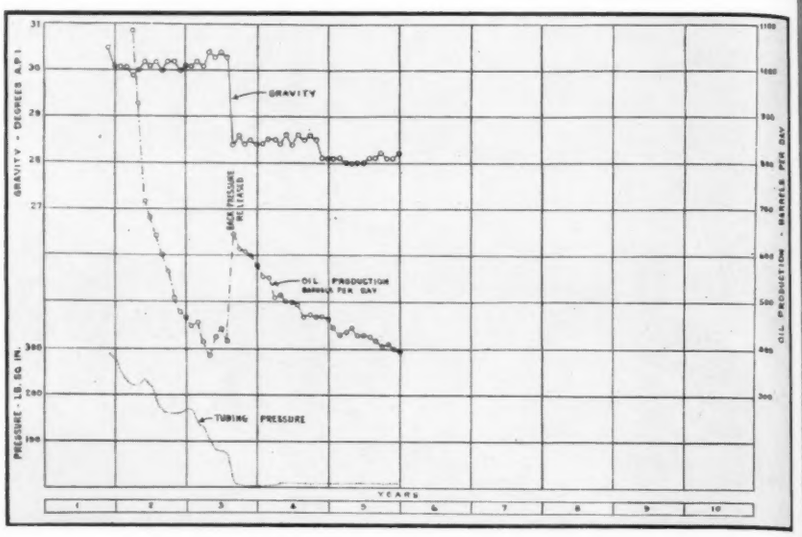

Chart 1—Effect of release of pressure on the well head

The gravity here discussed is that of the clean oil produced. Gravities of fluids containing water, free or in the form of emulsion, sand, drilling mud or mineral salts of a non-bituminous nature do not represent the gravity of crude oil as considered in this paper.

During recent years it has become a frequent occurrence for operators to be called upon to explain to landowners the reasons for variations in gravity on shipments of oil from wells in which they are interested as royalty owners. In case of single well leases it has been noted that marked changes in gravity frequently occurred for no apparent reason. Data when collected on the subject and correlated with production methods reveal considerable of interest. It is the purpose of this paper to present some of the highlights on the subject.

These gravity changes in the natural crude oil are with a few exceptions the result of the liberation under varying conditions of the volatile hydrocarbons from the natural oil-gas solution contained within the pool. The subject of the liberation of gases from natural oil-gas solution has been investigated by Ben E. Lindsly of the U. S. Bureau of Mines, and the observations here noted are in the main consistent with his conclusions.

Investigators have recognized two methods of liberation of gas from solution: flash and differential. In the latter the vapors are removed from the liquid as rapidly as formed and have no opportunity to come to a condition of equilibrium with the oil. In flash liberation an equilibrium condition between the oil and the gas exists at the pressure of separation. Mr. Lindsly has found that the method of liberating the gas from the oil has a pronounced effect on the final gravity and that differential liberation results in a higher A.P.I. gravity due to the higher ratio of gasoline-producing hydrocarbons left in the oil.

Under actual production practices with high velocities in flow strings, it is our contention that conditions of perfect equilibrium between gas and the oil rarely exist, and that gas separation is made under varying conditions, sometimes approaching that of equilibrium and at other times departing from it.

It has been pointed out that the gravity of the oil-gas solution in a natural reservoir under pressure is much lighter due to the dissolved gas than is the gravity of the oil as delivered to the production tanks. From a production standpoint it is desirable to distinguish between the gravity of the oil-gas solution in the reservoir and that of the oil component. As the gravity of the residual oil will vary with the changing conditions under which the gas component is liberated, we may define the gravity of the oil within the reservoir as the gravity of the liquid hydrocarbon content of the reservoir when reduced to atmospheric pressure under conditions of differential liberation. We may not be able to measure this gravity accurately unless we get a bottom-hole sample under static conditions, but we nevertheless shall adopt the definition.

A discussion covering the changes in gravity of crude oil brought about through methods of production involves two separate phases: (1) The gravity changes of the fluid within the reservoir. (2) Gravity changes brought about in the wells, lines, and traps, by the methods of operations.

CAUSES OF GRAVITY CHANGES

Gravity changes within the reservoir may be brought about by migration. A decrease in the gravity of the oil in an old field under water drive is a common phenomenon. In a few cases an increase in gravity has been noted after prolonged periods of pumping which may be ascribed to a downward migration of lighter oil originally accumulated on the top of the structure, the downward migration having been caused by edge withdrawals.

The method of gas liberation in the reservoir naturally has a bearing on the gravity of the oil entering the well. Without arguing whether or not this method more nearly approaches flash liberation or is approximately differential liberation, we can admit that it varies between the two methods, and also that it is influenced by the position of the well on the structure, the presence or absence of a free gas cap, and the method of pressure control on the well.

It is obvious that an increase in casinghead gasoline from the well must result in the lowering of the gravity of the oil produced, except in cases where such gasoline is recovered from a product which was previously lost, or where it is drawn from oil still left in the ground. In the first instance the economic gain is clear. In the second, an ultimate loss is indicated as casinghead gasoline produced from the oil left in the ground necessarily lowers the gravity of the oil remaining, thus lowering its value and making its recovery more difficult.

It often happens that a justification of a change in production is based on an increased gasoline recovery from the gas produced with the oil. Except in cases noted above, increased casinghead gasoline production can occur only when such gasoline is taken directly from the oil produced, thus lowering the gravity and its value, the net results to the operator remaining substantially the same. Changes in gravity of as much as 4° A.P.I. on 30° oil have been brought about by operating practices within the control of the operator. The changes in gravity were accompanied by an equalizing change in natural gasoline production. The producer is primarily interested in producing the maximum amount of oil at a minimum cost, and is not greatly concerned with the effect of his production method on the gravity

*Presented before the Petroleum Division of American Institute of Mining and Metallurgical Engineers, Los Angeles, Calif.

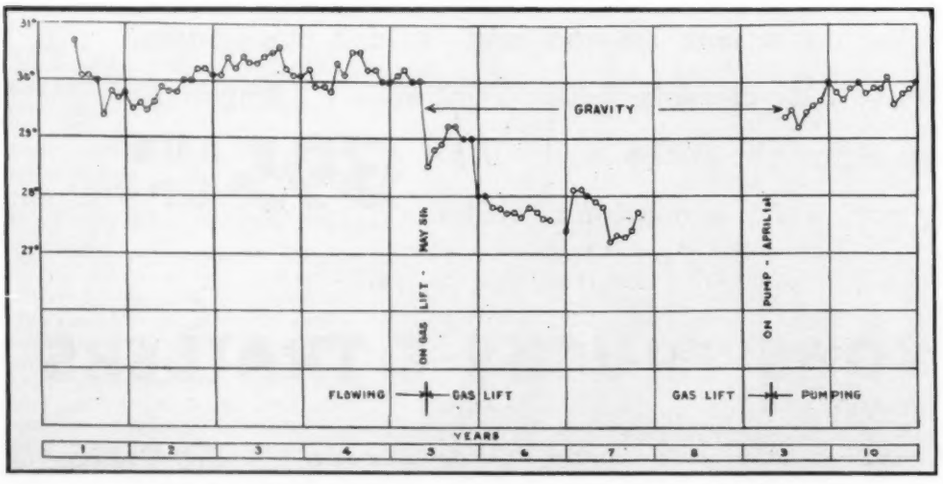

Chart 2—Showing the effect on gravity of changing from flowing to gas-lift operations

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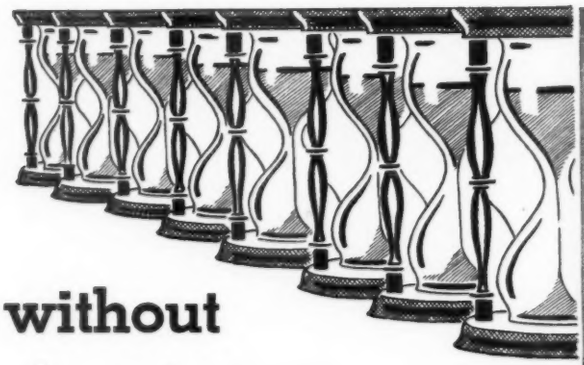

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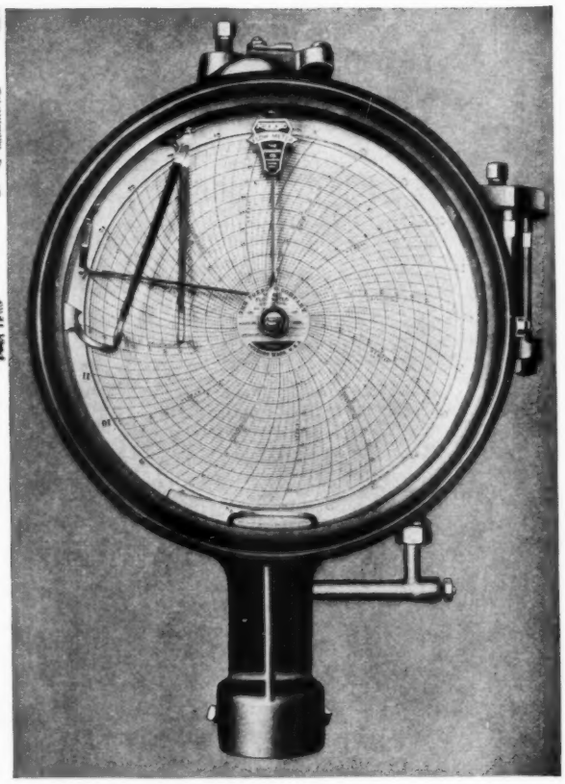

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of the oil as long as the gasoline producing fractions are all recovered in the gasoline plant.

There are some reasons, however, why we should have a better understanding of the causes of these gravity fluctuations, among them the following:

1. Gasoline production may erroneously be credited to an operation which has merely resulted in extracting the gasoline from the oil produced.

2. Geologists may err when using gravity data as an aid in determining the horizon from which the production is originating.

3. Claims have arisen for the improper accounting of royalties, based on the theory that the gravity of the produced oil varies uniformly with the time the well has been on production.

4. A knowledge of the subject may enable the producer to use the gravity data as an aid in solving production problems, including those which have to do with reservoir withdrawals.

The following data are presented covering changes in gravity which have resulted from changes in well operations. The gravity figure used is that of the average of all tank gravities for each month, and unless otherwise noted, represents the gravity of oil cutting 1 per cent or less in m.&b.s.

Chart 1 shows the result of a sudden drop in well-head pressure. On this chart, in addition to the gravity range has been platted oil production in barrels per day and the back pressure on the flow string. Through the first 21 months of the life of the well, the tubing pressure dropped from 290 pounds per square inch to 70 pounds with little change in the gravity of the oil. The gas was separated in a trap carrying 5 to 10 pounds. The gas-oil ratio varied considerably, gradually making two complete cycles between 1,500 and 2,300 feet per barrel. With 60 pounds carried on the tubing, the well ceased to flow. The choke was removed and the well was placed on production by means of the gas lift, which was immediately discontinued. The well continued to flow against 5 to 10 pounds pressure carried on the trap. The results were as follows:

	Before change	After change
Well head pressure, lbs.	70	10
Trap pressure, lbs.	10	10
Gas-oil ratio, cu. ft. per bbl.	1,240	1,726
Saturation of gas gals. of gasoline per M.C.F.	2 81	4.01
Gallons natural gasoline per bbl. oil	3.48	6.92
Gravity of oil in flow tank	30.3°	28.4°
Barrels of oil per day	412	650

On Chart 2 we have a clear record of the effect on the gravity of placing a flowing well on gas lift. During the four-year flowing life the gravity ranged between 29.4° A.P.I. and 30.7° A.P.I. As a probable cause of varying gravities, one might suggest the varying conditions of equilibrium within the flow string and in the drainage area immediately surrounding the well. The highest gravity was observed on the first month of production and the lowest on the fifth month. This low point was followed by a steady increase for two years. When the well was finally placed on gas lift, there was an immediate drop of 1.5° in gravity. The low point observed under gas-lift operations was 27.2°. Under pumping operations the gravity again reached 30° with an average over a considerable period of time of 29.8°.

The effect of the gas lift is not always immediately noticeable. Usually its application increases the pressure against the formation so that more gas is retained in solution as the oil enters the well. This may partially neutralize at first the effect of the introduction of the dry gas.

EFFECT OF DRY GAS

The example shown in Chart 3 is typical though we have seen cases where the introduction of a small amount of dry gas into a naturally flowing well was not immediately followed by a noticeable change in gravity. The usual drop did take place later, however, when the quantity recycled was increased.

This well was brought in with a highest observed gravity of 29.5° A.P.I. and a gas-oil ratio of 1,880 feet per barrel. The gasoline recovery was 1.58 gallons per 1,000 feet, making about 2.84 gallons of natural gasoline recovered per barrel of oil. Production was started with the compressor, but the well flowed without aid after once started. The tubing pressure dropped from 475 pounds to 125 pounds in 25 days, and to 35 pounds before the well went on gas lift. The gas-oil ratio had a uniform increase to 2,300. Three pounds to five pounds were carried on the trap. The gasoline recovery increased to 1.93 gallons per 1,000 feet or 4.43 gallons per barrel of oil. Wax trouble in the upper part of the tubing became serious during the second year.

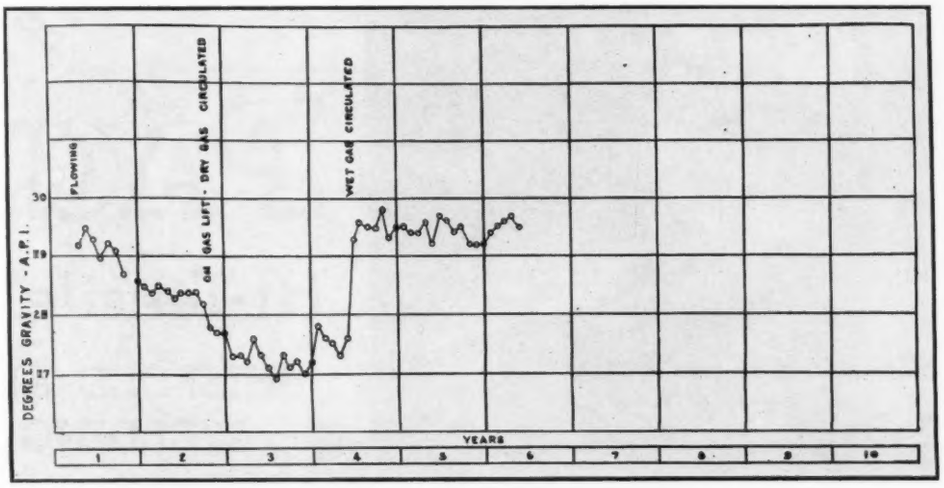


Chart 3—Effect of substituting wet gas circulation for dry gas in gas-lift operations

WET GAS INCREASES GRAVITY

Under dry gas circulation, the gravity varied considerably as you have noticed on several other charts, reaching a minimum of 26.9° A.P.I.

In the fourth year, the absorption plant was shut down and wet gas instead of dry gas was recycled. This was followed by an immediate increase in the gravity of the oil to a point equal to or in excess of the initial observed gravity. The effects of the change were as follows:

Production under dry gas circulation, bbls. of oil per day	129.4
Production under dry gas circulation, bbls. of natural gasoline	13.4
7 months' average, total	142.8
Average gravity of crude oil, °A.P.I.	27.4
Production under wet gas circulation, bbls. of oil per day	146.5
Production under wet gas circulation, bbls .of natural gasoline	6.9
	153 4
Average gravity of crude oil, °A.P.I.	29.6

Wax trouble in the upper 1,000 feet of the flow string ceased entirely under wet gas circulation.

Chart 4 shows the effect on gravity of shutting in a well and allowing the fluid level to build up on the pump. The oil from this well had a slight cut, which has been indicated at the bottom of the chart. The days on production each month are also indicated. The practice on this well was to allow it to produce its allotment each month. This was done by producing for a sufficient number of days at the end of one month and continuing on into the next month. The well was then closed in for a period of perhaps 20 or 30 days. There are periods, however, of several consecutive months when no curtailment was taken. After each shut-in period, we have the high points on gravity followed by the low points after the well has been on production a few weeks. Where we have continuous production we have continuous low. This well was shut in at one time while producing 23.8° oil. After being closed in for one month, on being placed on production, successive tanks during the next month had the following gravities, 26.7°, 26.3°, 25.6°, 24.7°, 24.7°, 24.0°.

In contrast to this graph, some pumping wells which are producing continuously show a close approximation to a straight line decline in gravity. One record covering several years of a Brown zone well, at Long Beach, shows a drop of 1.3° A.P.I. in that time with only 10 months where the gravity falls more than 0.2° above or below a straight line drawn between the beginning and end of the record. The extremes in variation are 0.5° above the line and 0.3° below the line.

On Chart 5 is platted the gravity by months, the oil production by months in barrels, and the gasoline production by months in gallons. Roughly the relation throughout is 1 gallon of gasoline per barrel of oil.

The irregularities of the production curve are caused by curtailment. During the period of high fluid levels, the ratio of gasoline to oil drops and the gravity increases.

Production methods of the offsets involved the use of a vacuum, which caused the same method to be used here. As no appreciable improvement was noted in the oil production, the practice was stopped with the result that gas production dropped to zero with no improvement in the oil gravity. The practice was then resumed, resulting in the production of 11 gallons of gasoline per barrel of oil, a quantity far in excess of the amount coming from the oil produced. The evil effects are appearing at the end of the graph with a de-

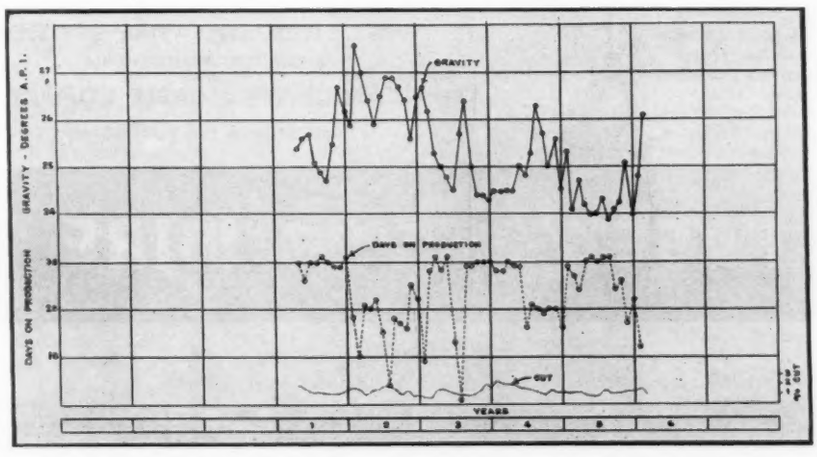
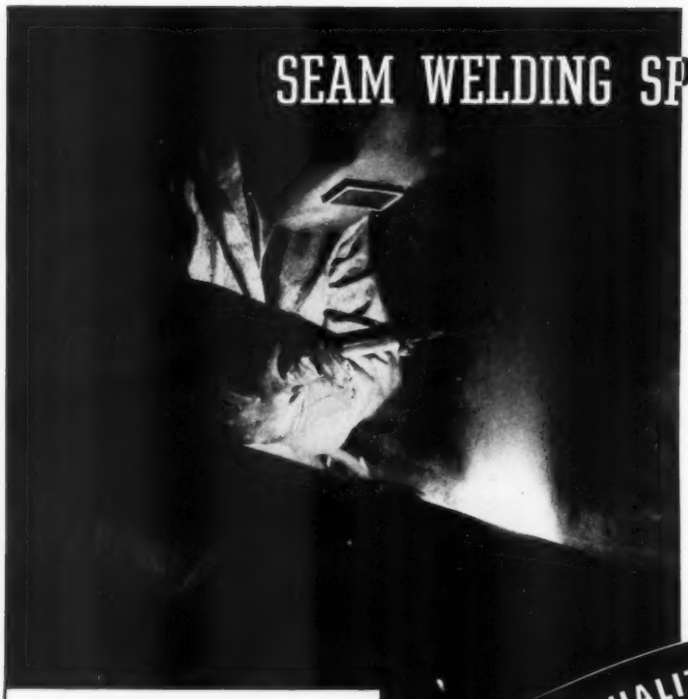


Chart 4—Effect of producing wells with periodic intervals of idleness



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creasing gasoline production with no improvement in the quantity or quality of the oil produced, which has already been bled of a large part of its gasoline content before it enters the well.

EFFECT OF HIGH PRESSURE TRAPS

If the primary separation of gas is made at high pressure we may expect to conserve the gravity of the oil. Mr. Lindsly has discussed the matter at length, so we will merely submit some data on a well which had been producing for some months previous to the installation of the high-pressure trap.

	°A.P.I. gravity of oil	Gallons of gasoline produced per bbls. of oil
Before high-pressure trap was used ..	29.2	7.38
During use of 360-lb. trap.	30.6	4.56
On gas lift 26.6		11.8

During the later stages of the flowing period we have no gravity data, therefore, the gas lift data covers a period some two years later than the other data. When the well was later pumped the gravity of the oil was around 30° A.P.I.

As a result of the data which we have accumulated, we can conclude that the following operating conditions help to retain the heavier vapor in the oil and therefore conserve its gravity: (1) Carefully regulated pressure control at the well head. (2) Primary separation of gas at high pressure. (3) Use of wet gas in gas-lift work. (4) High fluid levels. (5) Smooth pumping motion.

Some of the causes of abrupt drop in gravity are as follow: (1) Marked drops in well head or trap pressures. (2) Circulation of dry gas for gas-lift work. (3) Low fluid level. (4) Poor pump operations.

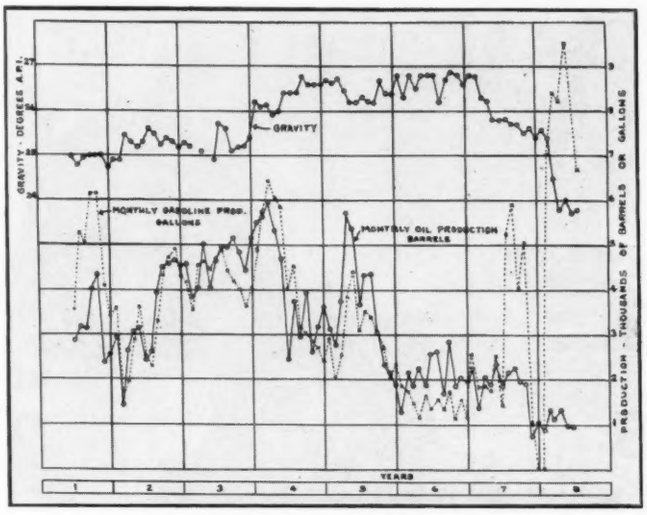


Chart 5—Effect of vacuum on the casinghead

REFERENCES

R. R. Bradenthaler: Effect of Gas-Lift on Physical Properties of Oil, Petroleum Development and Technology, 1927.

Ben E. Lindsly: Bureau of Mines, Technical Paper 554, Solubility and Liberation of Gas From Natural Oil-Gas Solutions.

R. J. Schilthius: Active Oil and Reservoir Energy—Discussion.

Hendricks Wells Show Profit

(Continued from Page 48)

many salts. Corrosion resisting rods are necessary; many strings of which are only three-quarters inch, but seven-eighths inch are preferred. The pumps are set at an average depth of 2,000 feet. It has been found important to keep them submerged at all times. Due to the large diameter of the working barrel and valves, trouble often occurs when the pump pounds fluid. Formation gas passes through the pump and aids in lifting the oil. A 4¾-inch I.D. working barrel is the largest size which can be used inside of 7-inch casing. Smaller sizes are often used.

Quite a few dynamometer tests have been made to determine the total polished-rod load for casing-pump installations. The highest yet recorded was 13,500 pounds. Generally it is less, and rod breaks are not frequent. One company operating an average of 17 pumps for a period of 11 months reports three sucker-rod breaks and two unscrews. The fishing of rods in casing has not been found difficult, although it is necessary to add an apron to the common socket used in large sized tubing. The use of packers is generally avoided when possible in all fields. However, to date no pumps have been left in the wells although packers are used.

Some wells in the Hendricks pool make large heads of oil. One well now flowing about 17,000 bbls. of fluid per day makes a head of oil about once per month, sometimes amounting to over 1,000 bbls. Casing pumps installed in wells where conditions of this kind exist must be weighted down by screwing on 3-inch tubing below the pump. Sometimes 300 feet of tubing is used. Some pumping wells in New Mexico encounter serious heading conditions. In several cases, as a safety measure, 2,000-pound gates have been installed on the lead line just below the stuffing box. In case of excessive pressure the polished-rod can be sawed in two so that the rods will drop and allow shutting of the gate below the stuffing box. As yet this has not been found necessary.

Past records indicate 75 per cent of the Hendricks wells show a worthwhile increase in oil production when a larger volume of water is handled. Sometimes the oil increase is proportional to the water increase; sometimes it is much greater; and at other times it is less. There have been cases where no oil increase occurred when water production was double. The casing pumps are being operated at 15 to 30 strokes per minute, ranging from 34 to 74 inches in length. The fluid production probably averages about 2,100 bbls. per day.

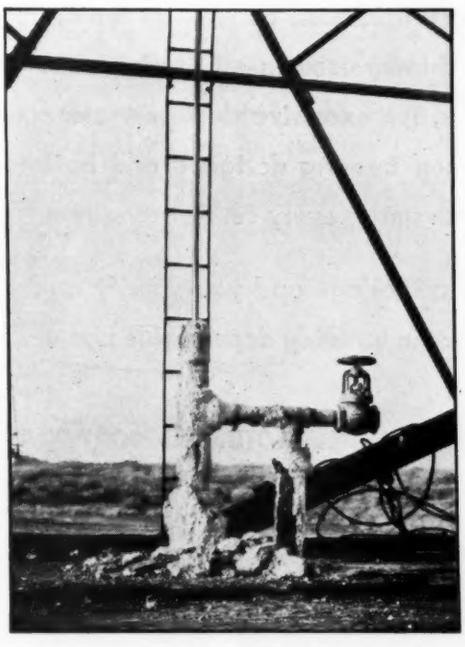
Economic operation of Hendricks wells is favored by the fact there is very little difficulty in treating the oil. Lubricators are used on flow lines of the flowing wells, but the treating chemical is generally added in the stock tanks in the case of the pumping wells after the free water has been drawn off. No heat is required, though it is used by some operators. It is generally considered more profitable to use a greater quantity of chemical and dispense with the heat, thereby keeping the oil at a higher gravity.

Water disposal is even less of a problem than treating. The land in and about the Hendricks field is of practically no value from an agricultural standpoint. Low areas on the flat terrain are common, which make excellent disposal pits. Others can be constructed cheaply. The rate of evaporation is rapid in this area, so that natural factors have combined to eliminate what is often a very serious problem. Flowing wells often make use of what is known as the West Texas water knock-out. This is a long tilting large-sized pipe into which the well flows without restriction. At the lower end of the pipe, water is drawn off through a pinched gate. Oil is run from the upper end through a restriction into the separator.

The Cooper pool of New Mexico is on the same structure as the Hendricks field, and water conditions have been found to be very similar, although the pool has been producing for a much shorter time. It is a very narrow structure, so that the water on both flanks only required a short time to flood the field, in spite of the well-regulated proration in effect throughout the life of the field. Some operators have found it necessary to cement wells up into the casing. Then by gun perforating they are able to get a larger per cent of oil production. This is because the casing in this field was originally set through the gas zone above the oil. As gas escaped the oil-gas contact level rose, in some cases above the casing seats of wells.

Casing pumps used in this field are usually set at about 2,700 feet. While the fluid levels are lower, there is more gas, which acts to compensate. The lower fluid level may be due to the higher elevation. The Hobbs field is on the same structure at a still higher elevation and the average fluid level there is 1,200 feet from the surface, making it necessary to set casing pumps at a depth of about 3,300 feet. Here again formation energy helps to compensate for the increased lift.

Potential tests cannot be taken in the Hendricks field using casing pumps or other unusual equipment. Tubing must be used for tests in pumping wells, larger tubing being permitted in this field than in other Texas fields because of the water conditions. However, a decline factor of 1 per cent per month is used, and potentials are only taken in cases of major well changes. Therefore proration has not served to discourage the use of special equipment.



Salt crust on tubing connections in the Hendricks field of West Texas which accumulated from sulfur water leaking through the stuffing box

Book of Standards for 1936 Is Announced by A.S.T.M.

The American Society for Testing Materials has just issued its 1936 Book of A.S.T.M. Standards. This triennial publication contains all of the standard specifications, methods of test, recommended practices and definitions formally adopted by the society. The 1936 issue is in two parts—Part I giving in their latest form all A.S.T.M. standards covering metallic materials; Part II, all standards relating to non-metallic materials. Both parts aggregate 2,400 pages.

In each part, the specifications for a particular class of material are given first, followed directly by the test methods, definitions, etc. A complete subject index lists each standard under the principal subject covered, with the keywords in alphabetical sequence. This index, together with two tables of contents, one listing standards by the materials covered, the other in order of sequence of the serial designations facilitates the use of the book. Copies of the book in blue cloth binding can be obtained from A.S.T.M. Headquarters, 260 S. Broad St., Philadelphia, Pa., at the following prices: Either part, $7.50; both parts, $14.00.

William A. Krause, who recently resigned as proration engineer for the Phillips Petroleum Co. to specialize in appraisals, proration and general consulting work, now has offices in Oklahoma City, Okla.

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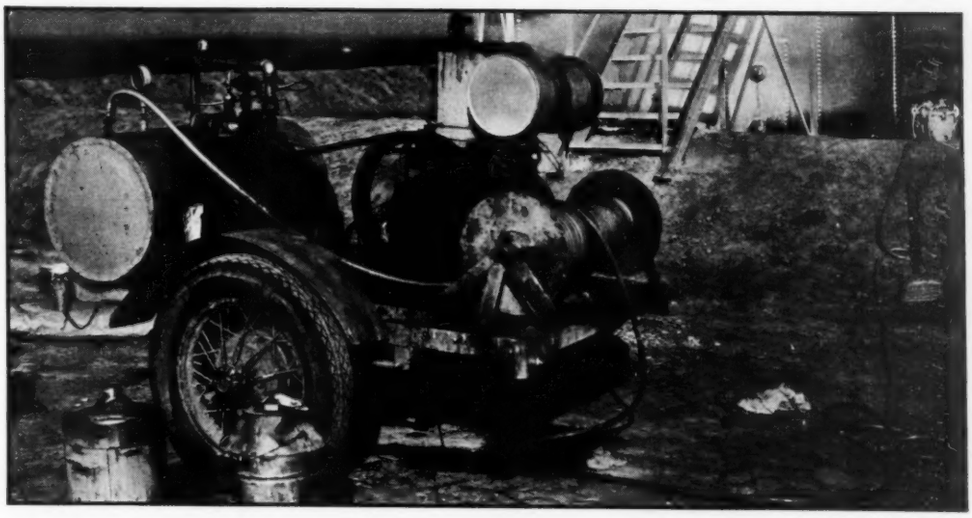
OPERATING IDEAS

Junk Boiler for Counterbalance

Most central power installations require one or more counterbalances, even when the plant is correctly located in regard to the weight of the wells, since a counterbalance is sometimes needed to take the place of a well which pumps off. An operator near Wewoka, Okla. has made use of a junk boiler to construct a low-cost counterbalance; thereby saving the welding expense which is often considerable on the customary type of counterbalance. The boiler swings on a pipe to which it is fastened with U-bolts set in a small concrete foundation. Rocks are piled in the free end of the boiler in order to adjust the weight to the pull on the rod.

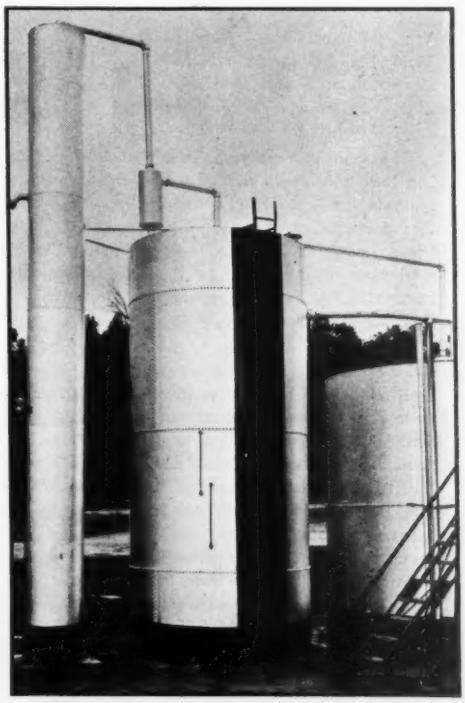


Rewind Reel for Air Hose on Paint Air-Gun

A tank contractor servicing one of the largest oil companies on the Gulf Coast and East Texas has mounted his painting equipment on a two-wheel car trailer. The unusual part of the equipment is the air-hose reel, which contains 100 feet of air hose that can be reeled off while the paint crew is at work. The reel has a spring built into it and when the crew has finished the hose can be rewound by releasing a catch. Painting tanks after they have been erected sometimes proves more satisfactory than trying to preserve the factory coating.

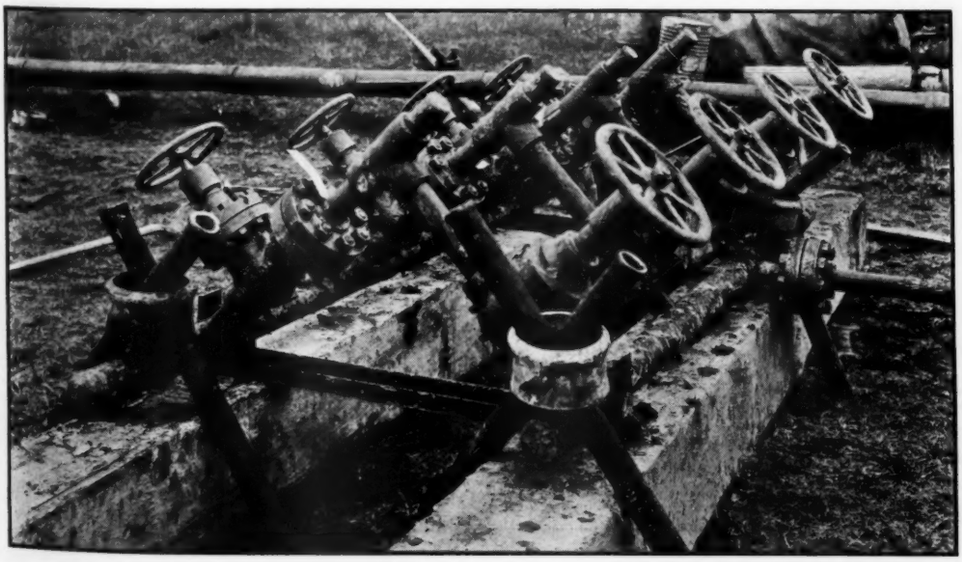
Efficient Water Knock-Out

To increase the capacity of its tank battery one large oil company operating in the Rodessa field has erected a 30-foot tower, 4 feet in diameter, to knock-out the water before the fluid reaches the gun-barrel flow tank. The oil goes first to the separator and upon leaving flows to the top of this tower. Baffles are placed in the tower to break up the flow as the fluid travels down to the bottom of the tower. The oil is taken off near the top of the tower and delivered to the gun barrel while the water is removed at the bottom. Thus nearly all the water is removed in this tower and the oil is not required to remain in the gun barrel any great length of time. This has proved to be of great value where large allowables are produced.



High-Pressure Manifold Tied Down by Crossed Pipe

A novel means of tying down high-pressure lines and connections laid temporarily on the surface was recently improvised by a company operating on the Gulf Coast. The lines were laid to bleed gas from a deep well which had encountered excessively high pressures. The accompanying picture shows the high-pressure manifold hook-up tied down at each corner with two sections of 3-inch pipe driven crosswise into the ground through an old collar. The bleeding-line leading to the manifold is tied down similarly, as shown in the background.



Progress in METALS

By W. L. NELSON

Subzero Steels for Propane Dewaxing

Nickel steel was utilized by the Union Oil Co. of California in the construction of pressure vessels to be used in its solvent dewaxing plant. Although pressure vessels for the petroleum industry are usually expected to withstand high temperatures, in this case the problem was to select a steel that would retain its toughness at a temperature 50° F. below zero.

Notable among low temperature materials are the austentic high-nickel steels and several nonferrous alloys, but for large vessels these materials are too expensive and cannot be easily fabricated. For these reasons, the following nickel steel, which can be economically rolled in large size plates was selected.

	Per cent
Carbon	0.2-0.3
Silicon (min.)	0.25
Manganese	0.5-0.8
Nickel	2-2.5

and the following minimum specifications were required:

Tensile strength (lbs. per sq. in.)	70,000
Yield point (lbs. per sq. in.)	40,000
Elongation in 2" (per cent)	30
Charpy impact at —50° F. (foot-pound)	15

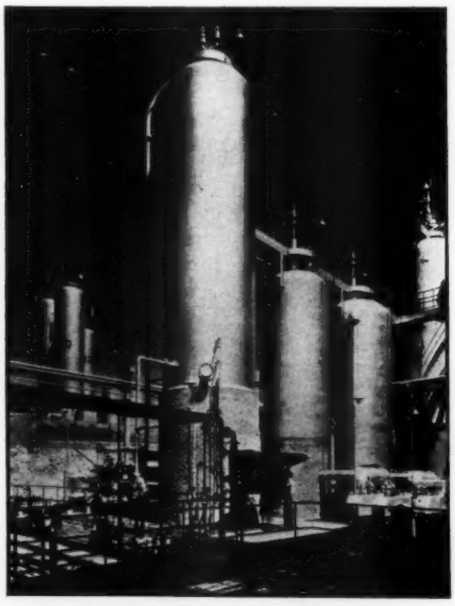
The fabrication of such large vessels from low-carbon low-nickel steels without undue difficulties is gratifying to the industry and should encourage the further development of many processes that require extreme conditions of temperature or pressure. The nickel steel plate was supplied by the Lukens Steel Co. of Coatesville, Pa., and the vessel was fabricated by the A. O. Smith Corp. of Milwaukee.

The superior properties of the wrought and forged nickel steels for low temperature service have long been recognized but little attention has been called to these steels in the cast condition. Cast nickel steel also retains its toughness at low temperatures and is suitable for the manufacture of castings for refrigeration equipment and low temperature pumps. The Worthington Pump & Machinery Corp. has recently supplied a large number of pumps and chilling machines to be used at minus 75 degrees in propane dewaxing processes. The castings were made by the Lebanon Steel Foundry from steel analyzing 2½-3 per cent nickel and a maximum of 0.25 per cent carbon. The Charpy impact tests of the steel at minus 75 degrees showed 16 to 23 foot-pounds.

Non-Sparking Tools

Although the metal beryllium has been known for many years, few commercial applications appeared until about four years ago, when the beryllium-copper alloys began to attract attention. The addition of very small amounts of beryllium to copper has a pronounced hardening and strengthening effect. The 2.15 per cent alloy exhibits tensile strengths ranging from 70,000 to 190,000 pounds per square inch depending on the heat treatment and amount of working that the alloy has undergone and the Brinell hardness from 110 to 360. Thus, these alloys have properties which are comparable with tool steel. The alloys also partake of the general corrosion resistance of all copper-base alloys.

The beryllium-copper alloys are used for springs, gears, bearings, instruments, diaphragms, clips and springlike parts that must be nonmagnetic, but the greatest application has been the manufacture of non-sparking tools such as hammers, chisels, wrenches, wrecking bars, scrapers and the like. The petroleum industry is one of the largest users of these non-sparking tools because of the constant danger involved in handling explosive materials. The grave fire hazard on oil tankers suggests another obvious use for non-sparking tools. Beryllium-copper tools are not expensive, but the price is sufficiently high to justify special cabinets for their storage so that they do not become mixed with regular tools. The Ampco Metal Co., Inc. of Milwaukee is active in the development of these new copper alloys.



Nickel-steel vessels used in Union Oil Co.'s dewaxing process

	Treatment	Tensile strength	Yield point	Ratio
Armco iron	Annealed	38,000	19,000	0.5
Tubing steel (.15C)	.....	61,500	45,000	0.73
Forging steel (S.A.E. 1050-0.5C)	Oil hardened	115,000	70,000	0.695
Nickel steel (S.A.E. 2340)	Oil hardened	165,000	148,000	0.895
Alloy steel (S.A.E. 4340-Mn., Cr., Ni. and Mo.)	Oil quenched	210,000	190,000	0.905
Stainless steel (13 Cr.)	Heat treated	180,000	140,000	0.777
Tubing steel (alloy 5 Cr.-0.5 Mo.) at 850° F.	.....	66,600	26,000	0.39
Admiralty metal (70 Cu., 1 Sn., 29 Zn.)	Annealed	45,000	241,000	0.535

Low-Cost Composite Stainless Steel

Increasing efforts to take advantage of the superior properties of stainless steels without excessive cost has resulted in the development of a new product termed Silverbond by the Jessop Steel Co., Washington, Pa.

Inserts of inexpensive materials are embedded within stainless steel so that the coating of stainless material covers the inserts by a thickness amounting to about 18 per cent on each side. The material can be supplied in the form of slabs, plates, sheets, strips or bars and the Jessop company reports that many of the common fabrication processes, including welding, can be conducted on these stock materials by taking special precautions to avoid exposing the inserts. Obviously the success of the new material depends upon the care used in fabrication because should the inserts be exposed to corrosive conditions the composite piece would be worthless. Sheets, plates and strip can be used wherever either or both surfaces are subject to corrosion or heat. Bars and shapes, with the ends covered, can be used where conditions warrant.

Although the cost of stainless steels will decrease in the future due to a more widespread use, the cost will probably continue to be excessive for many services. In an attempt to meet this situation, many alternative ways of using stainless steel are being studied. Among the methods being pursued are (1) bonding stainless steel to less expensive materials, (2) spraying molten stainless steel on the surface, (3) the use of insert materials, and (4) the sheathing of equipment in thin stainless plate. In fact, many other corrosion resistant materials than stainless steel are being used as surfacing materials and in general the entire metal industry is searching for ways to make expensive corrosion resistant materials available to users at costs that will promote widespread use.

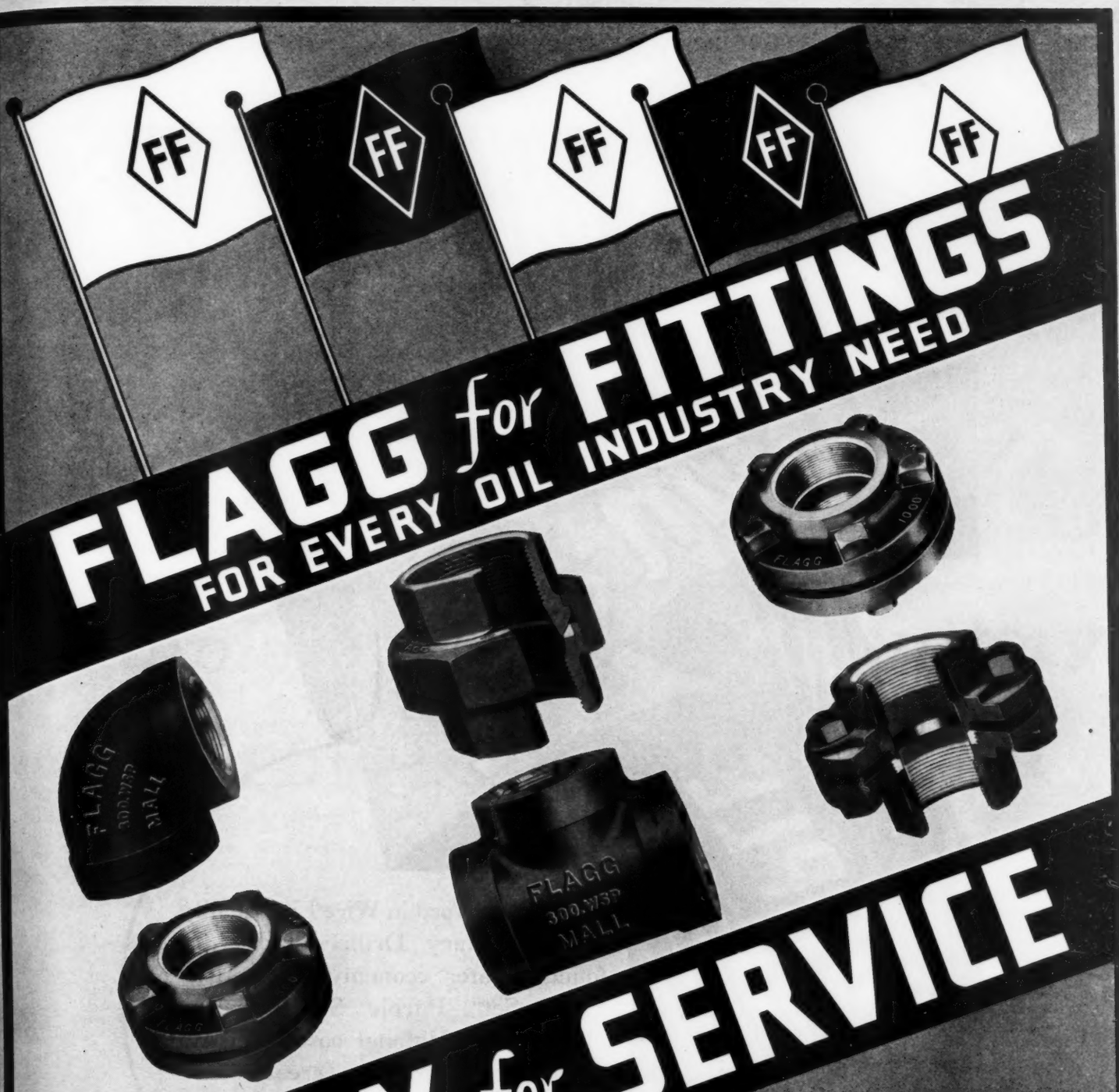
Metallurgical Terms

Tensile Strength, Elastic Limit and Yield Point

All of these properties may be obtained from a single laboratory test of the material. Tension is applied to a standard specimen and the metal is pulled apart. At low stresses the metal is elastic, but eventually the specimen is stretched so much that it fails to return to its original dimensions and the load that is required to cause permanent deformation is called the Elastic Limit. As greater loads are applied, the specimen stretches more rapidly and finally rupture occurs, which load is called the Tensile Strength. Both the elastic limit and the tensile strength are expressed as pounds per square inch and are based on the original cross-sectional area—not the area after deformation or rupture occurs.

Although the tensile strength is most frequently given in handbooks, etc., the elastic limit is the property that is of primary interest to engineers and users of steel. Obviously, a metal piece that deforms or stretches during service is of little use and hence the elastic limit is the truly significant measure of strength. For practical purposes, the yield point and the elastic limit may be considered as the same property.

The tensile strength and elastic limit are usually almost the same for brittle or very hard materials but for ductile material the difference between the two properties is great. The following tabulation illustrates the relation between tensile strength and elastic limit (or yield point):



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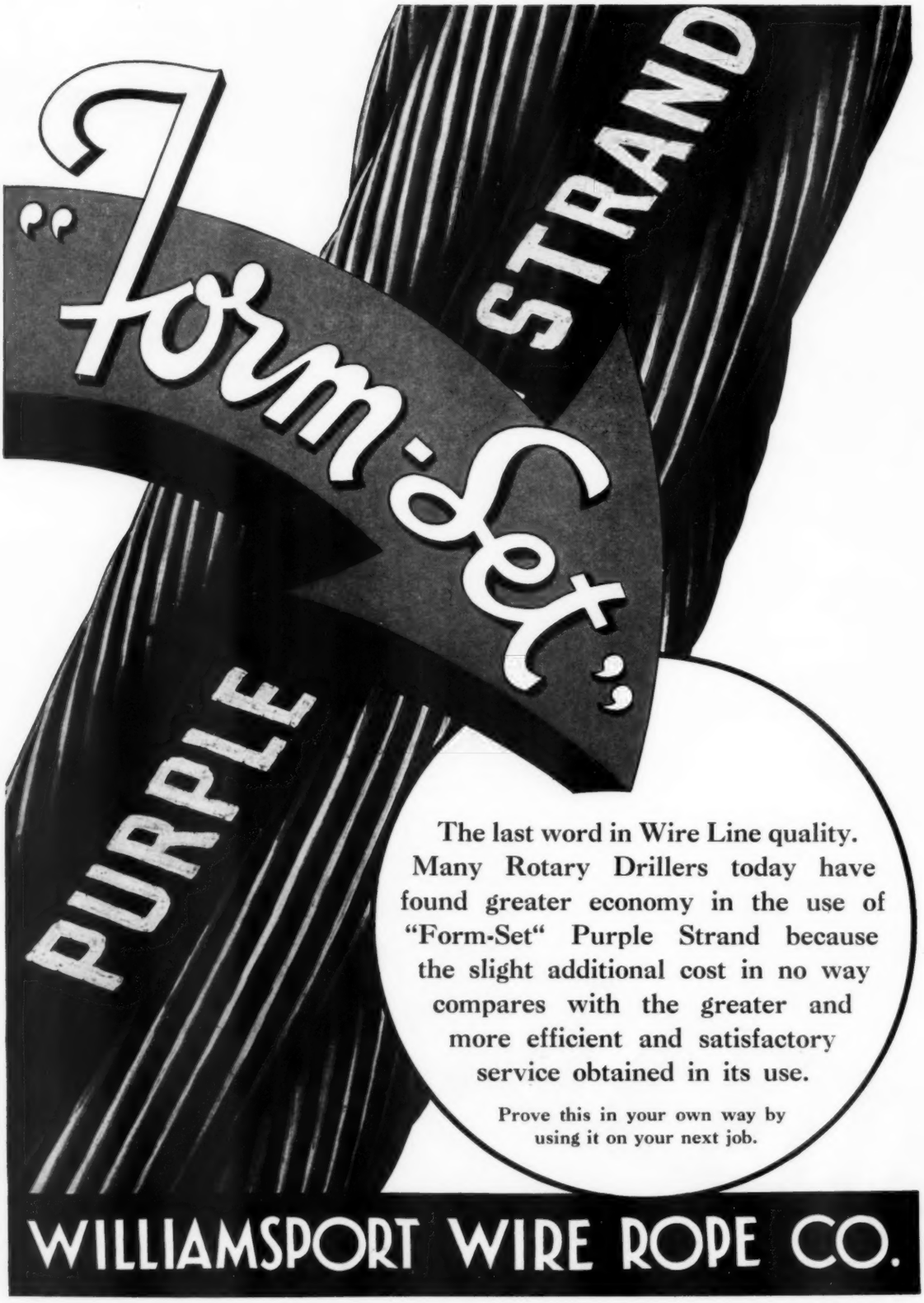
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All equipment for making porosity, permeability saturation and water analysis tests is housed in the trailer

Complete Portable Laboratory Used by Phillips in Rodessa

By MITCHELL TUCKER

A complete petroleum laboratory on wheels, equipped to make porosity, saturation, permeability, and water analyses tests, is now being employed by Phillips Petroleum Co. in the development of its properties on the Cass County, Texas, side of the Rodessa field. From these tests a detailed physical log of each well is made, and casing seats determined.

All equipment is housed in what, from the exterior appears to be a regular family trailer. When road conditions permit, it is pulled around from well to well as the testing point is neared, but during wet weather cores are gathered in the field and brought to the test car.

This practice has been considered for some time, first receiving unofficial endorsement by the subcommittee on saturation and porosity tests of the Mid-Continent committee on petroleum technology about one year ago. Phillips Petroleum Co. has long been one of the pioneers in physical test work, and is the first to introduce the trailer test car. A few Rodessa operators maintain petroleum laboratories either in Shreveport or Houston, while others are contemplating the use of field test cars.

Conditions in the Rodessa field present a special need for equipment of this sort, as due to the low gas-oil ratio permitted on the Texas side of the field, it is quite necessary that casing be properly set to shut off upper prolific gas horizons. In view of the varying depths and magnitudes of both oil and gas saturation, physical laboratory determinations are quite necessary. Effective porosity and permeability are known to vary considerably even from well to well, which further points to the need for logging the entire gas and oil sections by the aid of accurate laboratory tests. The geographic location of the Rodessa field, situated such great distances from the home offices and central laboratories of the majority of operators, also makes the portable laboratory practicable.

When seen from the road the Phillips testing-trailer appears to be an ordinary passenger trailer. Three windows are provided on each side to give ample lighting. A back door enters into the aisle between two laboratory benches, with sufficient room for at least two men to work. Another bench is located at the front of the trailer. A door is provided near the front of the car, on the right-hand side. Underneath the laboratory benches shelves are built in for cataloging cores, files, batteries, motor, generator, compressor, vacuum equipment, and laboratory supplies. Storage batteries afford electric lights in the car when the generator is not running. They are also used to start the motor for driving generator. The compressing unit gives pressure to the water tank, pressure pump, and operates the vacuum pump. One engineer is assigned to the car for making all tests.

POROSITY TESTS

The laboratory is equipped to make at least two kinds of porosity tests. The Melcher-Nutting method is one, requiring only a Pycnometer as special equipment, from which a determination of grain and bulk densities of samples are obtainable. The pore space is calculated as follows:

$$\% \text{ Solid} = \frac{100 \times \text{Wt. of sample}}{\text{Vol.} \times \text{density of sample}}$$

$$100\% - \% \text{ Solid} = \% \text{ Porosity}$$

$$\% \text{ Porosity} \times \text{volume} = \text{cc pore space.}$$

The acetylene tetrachloride saturation method for determining porosity is also used. Here the effective porosity is obtained, whereas the Melcher-Nutting procedure gives absolute porosity. Quoting from the Pennsylvania State College Bulletin No. 10, 1931, Barnes describes the saturation method of determining porosity as follows:

"The difference between the wet and dry weights of the sample is the weight in grams of the acetylene tetrachloride which filled all connected interstices in the sample. This weight in grams, divided by the density of the liquid, gives its volume in cubic centimeters, and is identical with the volume of the connected voids present in the sample tested. The volume of voids divided by the volume of the sample gives the fraction of void space present and, when multiplied by 100, gives the value of the effective porosity in per cent."

The latter procedure saves considerable time over certain other methods when a number of samples are to be tested, and also leaves the sample in its original condition and shape, suitable for permeability testing or for permanent filing.

PERMEABILITY TESTS

Permeability tests, both parallel and vertical to the bedding plane, are necessary in evaluating the Rodessa producing section, and the two types of tests are made in the trailer laboratory throughout the entire cored portion of each hole. While the porosity tests give a measure of that physical property which makes possible the storage of fluids within a porous medium, the permeability tests denotes the ability of the medium to conduct, transport, or convey fluids by and/or through it. The standard definition of this physical property is as follows:

"For a sand specimen passing 1 cc. of fluid per second, through 1 cm. length of specimen

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with a cross-sectional area of 1 square cm., with a pressure drop of 1 atmosphere, and a fluid viscosity of 1 centipoise, the permeability is 1 darcy, or 1,000 millidarcys."

Diamond drills are used in the field laboratory to cut cores to testing size, and after removing the oil saturation by a solvent, the conventional procedure is used in making permeability determinations. Dried air is used instead of water as the volume basis, and this is accounted for in the calculations by a conversion in the centipoises of viscosity. Obviously, all the specimens cut and tested cannot conform to the dimensions set out in the above definition, and the following generally accepted formula is applied to correct for variations from standard specifications:

$$K = \frac{Q \times Z \times L}{A \times (p_1 - p_2)}$$

Where:
K = Permeability
Q = Volume rate of flow
Z = Centipoises at constant temperature
L = Length of specimen
A = Cross-sectional area
$(p_1 - p_2)$ = Pressure gradient across specimen.

SATURATION TESTS

The percentage of pore space ascertained from the first described porosity test is applied in making saturation determinations. Sample is first washed with pentane and decanted off in a centrifuge tube to determine oil recovery. A correction factor of .68 is applied to all Rodessa cores. The per cent saturation is determined as follows:

$$\% \text{ Porosity} \times \text{Volume} = \text{cc pore space}$$

$$\frac{\text{Oil recovery}}{.68} = \text{Oil in sample}$$

$$\frac{\text{Cor. oil in sample} \times 100}{\text{cc. pore space}} = \% \text{ Saturation by volume pore space}$$

$$\frac{\text{Cor. oil in sample} \times 100}{\text{Weight of sample}} = \% \text{ Saturation by weight of sample}$$

Detailed record of every test on each core is maintained for permanent filing, and a running record of each core tested in each well is kept for field use in determining casing seat, etc.

The extension of this practice may reasonably be expected, not only in the Rodessa field, but in all others where it is recognized that full and complete logging of all formation properties is essential to efficient drilling, future reconditioning, and producing operations.

W.P.R.A. Announces Subjects for Annual Meeting

Appointment of the committee to arrange the technical program and selection of subjects for discussion at the annual meeting of the Western Petroleum Refiners Association has been announced by A. V. Bourque, secretary-treasurer of the association. The committee members are Emby Kaye, Skelly Oil Co., chairman; Walter Miller, Continental Oil Co.; H. W. Camp, Empire Oil & Refining Co.; W. F. Sims, Panhandle Refining Co., and R. B. Pierce, Louisiana Oil & Refining Co.

The subjects which the committee has under consideration are, while technical in nature, of importance in their economic influence on plant operation and of every-day application. Among the subjects being considered for discussion are:

"The Economics of Gum Removal." (A discussion of the various methods of gum removal or isolation with special regard to the quality of gasoline produced by each method.)

"Gasoline Sweetening." (The economics of three methods of gasoline sweetening.)

"Reforming." (The economics of reforming in modern equipment versus present-day lead costs.)

The place of the meeting, announced for Mineral Wells, Tex., has been changed and a new location will be announced shortly.

PROBLEMS FROM READERS

Edited by L. G. E. Bignell

How the Gas-Lift Works

What is the principle that underlies the action of the gas-lift? How much gas is required to lift a barrel of oil? In a well 1,350 feet in depth, with thick porous sand, we believe we should make upwards of 2,000 bbls. per day. What quantity of gas do we need to use in this well to lift this quantity of oil?—S. T. E.

Various explanations have been offered to account for the action of the gas-lift. One explanation is the compressed gas, or air, admitted to the bottom of the flow pipe, being lighter than a liquid, tends to rise, thus becoming dispersed through the liquid, and lightens the entire column and causes it to flow out of the pipe; that this aerated column is lighter than the surrounding body of liquid, and the liquid then tends to flow into the pipe, thus maintaining a more or less continuous action. Another explanation is to the effect that the compressed gas, once forced into the liquid column, tends to "blow" the liquid out of the pipe, much after the action of the wind in carrying along objects with it when moving from an area of higher pressure to an area of lower pressure.

A gas, in expanding from a higher pressure to a lower pressure, performs work. The energy so developed is utilized in lifting through a pipe the liquid with which it is mixed. The principle of conservation of energy states there can be no loss or increase in energy in a body, therefore, there can be no more liquid lifted than corresponds to the energy stored in the gas. Owing to the fact that considerable energy is consumed in overcoming frictional loss, and in acceleration it cannot be expected 100 per cent of the theoretical energy stored in the gas is available for lifting a liquid.

The following statements are supplied by S. F. Shaw for determining the quantity of gas required to lift the oil from your wells.

The quantity of gas required to lift a given quantity of oil, as for instance, 1 bbl., is dependent on the height to which the oil is to be lifted, and on the weight of a barrel of the oil. A barrel of water weighs approximately 350 pounds. Since oil is lighter than water, its weight will depend on the relative weight of oil compared to that of water. To lift a barrel of oil having a gravity of 45.4 A.P.I., or 0.80 specific gravity, for instance, would require 350 × 0.8, or 280 foot-pounds, for every foot in height the oil is lifted. If the oil is lifted 775 feet, for instance, 1 bbl. of 0.80 oil would require 775 × 280, or 217,000 foot-pounds of work.

In order to answer the question which you have asked, there would need to be known the pressure at the bottom of the well when it is producing 2,000 bbls. per day, also the gravity of the oil, and the quantity of gas that comes with the oil from the formation. Let us assume that the gravity of the oil is 45.4° and that the flowing pressure is 200 pounds at the bottom of the well when it is producing 2,000 bbls. per day. In this case, the 200 pounds would be the equivalent of a column of water 460 feet in height, or a column of 45.4° oil, 575 feet in height. Since the well is 1,350 feet in depth, the oil would be lifted to a height above the level of the liquid equal to 1,350 feet less 575 feet, or 775 feet, and from figures previously stated there would be required 217,000 foot-pounds of work to lift each barrel of the oil to the surface.

In each cubic foot of gas compressed to 200 pounds there are stored 5,676 foot-pounds, which can be developed by allowing the gas to expand to atmospheric pressure. If there were no extra work to be overcome, such as friction, there would be required to lift a barrel of oil to the surface: $\frac{217,000}{5,676}$ or approximately 38 cubic feet of gas.

Since there are frictional losses, more than 38 cubic feet per barrel will be required. Possibly, for the sake of example, we might assume the actual lifting efficiency will be in the neighborhood of 38 per cent, in which case, the actual requirements if gas for lifting the oil would be $\frac{38}{.38}$, or 100 cubic feet per barrel. On this basis, the entire 2,000 bbls. per day would require approximately 100 × 2,000, or 200,000 feet per day. If there should be associated with the oil, for instance, 25 cubic feet per barrel, then the additional compressed gas required to be added to the well would be 75 cubic feet per barrel, or a total of 75 × 2,000, or 150,000 feet per day.

While the assumptions as made may not be in accordance with your actual condition, perhaps they will suffice to illustrate the manner in which you may approach your problem.

Proration Rules Not Uniform in Oil States

We have been wondering on what basis proration is made. Is it based on the acreage of oil-producing land; on an estimate of the underlying reserves, or on the pressure which the oil exerts in coming to the surface. On page 51 of The Oil and Gas Journal of December 31, 1936, there is an article relating to a proration order covering the Rodessa, Louisiana, field. The statement is made that a provision for allocation of production on a 50 per cent acreage and 50 per cent bottom-hole pressure basis with the gas-oil ratio of 2,000 to 1 had been ordered. What is meant by a gas-oil ratio of 2,000 to 1?—J. E. M.

There are no uniform laws covering the method of prorating oil production. If you will refer to page 9 of our January 7 issue, you will find further explanation of the Louisiana order and some reference to methods of allocation applied in Texas.

We assume that you understand the example to which you refer on page 5 of the December 31 issue, and while that may be varied to suit conditions, the basic idea would remain the same.

The gas-oil ratio means the number of cubic feet of gas produced with each barrel of oil. Two thousand to one means the operator is permitted to take 2,000 cubic feet of gas from the reservoir with each barrel of oil. This limitation has been placed to conserve formation energy because it has been found that unnecessary gas has been produced with the oil, and the release of this gas from the formation has materially reduced ultimate recovery of oil.

Production is not generally based on acreage and bottom-hole pressure. There is no uniform proration rule, but most of the states do have what is known as a potential test which is taken on the various wells, and they allocate to the wells a certain percentage of the well's potential to be produced daily.

The Interstate Oil Compact is now making a detailed study of all the laws pertaining to oil and gas regulations in the several oil-producing states in hopes that uniform legislation may be enacted in all states and that the oil compact may be expanded to include all states producing oil. If this arrangement can be brought about it will undoubtedly be of great benefit to the nation because it will lead to the conservation of natural resources which are irreplaceable.

Literature on Acidizing Desired

Can you advise me where I can procure a description of the process of acidizing a well? I have some shallow production and have been told I can increase output by acidizing, but my driller does not know how to do it.—C. H. J.

The only publication we know of dealing with acidization is "Acidizing Handbook" by Benson M. Kingston and available through the Book Department of The Oil and Gas Journal. Price $1.50. We also refer you to the following articles which will prove of much assistance in a study of this problem. The Oil and Gas Journal Nov. 22, 1934, page 38, March 21, 1935, page 53 and April 25, 1935, page 53.

While this handbook and the articles will be helpful in acquiring knowledge about the practice of acidizing oil or gas wells it is recommended that the actual work be contracted to organized companies properly equipped and with adequate experience to handle this work. The well owner will save very little by having wells acidized by leasemen and if the work is turned over to inexperienced men the risk of damaging the well is great and is not justified when commercial acidizing service is available.

Unique Water Disposal Well in Kansas

In a well in central Kansas the owner has developed a unique method of producing oil from an upper formation and at the same time using a lower barren formation for water disposal. The well was originally drilled to the Viola lime which produces oil. Later it was deepened to the Siliceous lime found at a depth of 3,490 to 3,547 feet which was barren but permeable. As water was produced with oil on the lease a string of tubing was run to the Siliceous lime with a packer which was set in the space between the Viola lime and Siliceous lime. The packer forms the bottom of the oil well and tubing and working barrel has been run to a position somewhere above the packer and oil from the Viola is being produced by pumping.

At the same time this oil is being produced waste water is being run into the hole below the packer and finding escape into the porous Siliceous lime formation. This is a unique manner of disposing of salt water and as long as the packer holds should prove effective permitting the oil from the upper formation to be recovered while the water is disposed of in the lower porous Siliceous limestone.

How to Identify Different Geological Formations

Where can I secure a book or books dealing in and describing the cause, place and how to classify all the various formations making up the old earth, and how can I test to identify same?—V. C. S.

There are a number of good geologies available but we suggest you secure a copy of "Practical Oil Geology" by Dorsey Hager which will give you the information you desire concerning the earth.

The other book we recommend is probably out of print. It is entitled "Aids to Identification of Geological Formations" by the late Dr. J. A. Udden. This little booklet was prepared for just the purpose you outline and was published by the University of Texas, Austin, Tex. You might write them to ascertain if copies are still available.

QUESTIONS ON TECHNOLOGY

By Charles K. Francis, Ph.D., Technical Editor

Homogenizing Agents as Used in Motor Fuel—Alcohol Mixtures

What are homogenizing agents that are reported to be added to motor fuels in Germany and other European countries?—L. C. M.

When alcohol is mixed with gasoline, as required in some countries for the purpose of aiding the alcohol industry, the addition of some substance is required to stabilize the solution at low temperatures and in the presence of small quantities of water. Substances that serve to assist in this respect are known as homogenizing agents.

Grossman has reported the investigation of the action of a number of homogenizing agents when added to a motor fuel containing gasoline 40 per cent, benzol 20 per cent, alcohol (95 per cent) 40 per cent. The substances with results, are indicated in the table.

HOMOGENIZING AGENTS IN MIXED FUELS

Reagent—	Sec. temp., °C.	Separation at 18° C. is caused by percentage of water added
Napthalene 5%	—11	1.1
Benzol 5%	—11	1.0
Benzol 10%	—16	1.2
Middle oil 5%	—14	1.3
Middle oil 10%	—23	1.7
Ethyl ether 5%	—23	1.6
Ethyl ether 10%	—44	2.2
B-Naphtol 5%	—22	2.1
a-Naphthol 5%	—28	2.2
Naphthalene ..... +2.5% a-Naphthol	—23	...

The fuel without any homogenizing agent, had a separation temperature of —6° F. and at 18° C. with 0.9 per cent water.

Reference: Library Bulletin of Abstracts, 11, 86, 1936, from Brennstoff-Chemie., 17, 172, 1936, May 1, Abs.

Polymerization Processes of Oil Refining Is a Form of Synthesis

I have been puzzled in regard to what type of operation can be properly classified as polymerization when in the process liquids are produced from gases, or both oil and gas, as raw material. Will you be kind enough to furnish some information which may clarify this matter? Some one has said that when benzene is produced from propylene, C_3H_6, the benzene having the formula C_6H_6, not being of the same percentage composition as propylene, is consequently not a polymer of propylene, while hexane, C_6H_{12}, is a polymer of propylene.—C. B.

Some compounds change either spontaneously or when heated to new compounds which have the same percentage composition as the original substance and appear to be aggregations of several molecules of the first compound held together by some force. A conversion of this sort is similar to what happens when a pillar is erected from a number of bricks of the same kind; then the entire structure is a multiple of the single brick. It may be an extreme fancy to consider the mortar the binding medium acting as the catalyst. The building of a structure, compound, from molecules of the same kind is a process well known in chemistry as polymerization. The word polymerization means to the chemist a process which results in the change of some single substance into another which has the same percentage composition. This is explained by stating that the second material has a molecular weight equal to or some multiple of the original substance. The second is known as a polymer of the first. A polymer may be a solid and the original a liquid.

The best known example of polymerization is the change of formaldehyde, H.CHO, to paraformaldehyde $(H.CHO)_2$. The result of the change may be observed when a water solution of formaldehyde is permitted to evaporate. A colorless amorphus deposit is produced, which is soluble in warm water and may be quite easily changed back into formaldehyde. A true polymer may be compared to an allotropic form of an element, such as charcoal and the diamond as different forms of carbon, having the same composition but different physical properties.

The modern conception, which appears to have been adopted by the petroleum technologist, is that a polymeric modification need not show any relation whatsoever to the original material. A product is not always formed by chemical combination of simple molecules but is built-up material that cannot be easily reconverted to the starting substance. The change is the opposite of cracking, which breaks a large molecule, because the polymerization of gases and oils is a form of synthesis accomplished through the union of small molecules to make liquids containing larger molecules.

SPECIFICATIONS

MINERAL-LARD CUTTING OIL

A clean homogeneous solution of refined mineral oil and lard oil (not below Extra No. 1) suitable as a cutting oil and coolant for machine cutting tools. Two grades only Nos. 1 and 2.

SHALL COMPLY WITH

Test—	Limit— Grade 1	Grade 2
Visc. S.U. sec. @ 100° F.	140-190	190-220
Flash, °F. min.	300	325
Pour, °F. max.	45	45
Color, A.S.T.M. No. max.	6½	6½
Neut'z'n. No., max.	10	10
Fatty oil content, per cent	25-30	25-30
Water, per cent max.	0.5	0.5
Sediment, gumming, corrosion	none	none
Bad odors, rancidity, foreign matter	none	none

Shall be easily soluble and retain its oily consistency in kerosene, or soda-water mixtures.

Soda solution, which may be mixed with the cutting oil prior to use, should not exceed 1 per cent alkalinity as Na_2CO_3; equivalent, approximately to 1 ounce of 58 per cent soda ash to 7 pints of water.

A shallow dish with enough oil to cover the bottom when held for eight hours at 248° F. shall show no gummy residue.

Strips of polished steel shall show no corrosion in 14 days when partly suspended in either (1) the cutting oil; (2) mix of oil and kerosene; (3) emulsion of oil, soda and water.

Reference: Federal Standard Stock Catalog, Sec. IV, Part 5, VV-O-251.

College Preparation Work in Petroleum Refining

Since graduation I have been employed in this refinery, helping in the construction of special stills. I expect to go into the laboratory shortly but do not want to be there permanently. My ambition is to be in the engineering department where I may design, build and eventually supervise the operation of refining units.

Since the engineering course at the university did not include much petroleum engineering, I should like to know what subjects should be included in my home study. Will you give me some suggestions and also advise me in the selection of suitable texts?—C. A. H.

The subject of specialization in college courses is often discussed, so for the purpose of answering this inquiry, opinions have been obtained from college authorities and executives of the petroleum industry. What follows is a composite of these.

Just what an individual benefits from a college course depends on his mental ability and attitude, so granting for two individuals that these are equal, together with personality, health and physique, the first question is reduced to—which will have the advantage some years after graduation, the one who has selected fundamental engineering and scientific subjects, or the other individual who has studied the pure sciences in the same institution to only a limited extent, but has devoted much time to certain practical or industrial phases of engineering?

A man trained in the fundamentals of engineering, or chemical engineering, according to a college dean, should be able to progress in the petroleum industry without special courses in petroleum engineering. The most valuable material for him to study would be the current articles in The Oil and Gas Journal, Industrial and Engineering Chemistry, Journal of the Institution of Petroleum Technologists, etc. This material is far more up to date than anything which he could find in textbooks.

A combination of several letters show that refinery executives and engineering authorities agree that for this purpose the university courses should be devoted to imparting fundamental knowledge of engineering, chemistry and physics and less to specialization. Enough laboratory work should be had to make understandable the theory. The graduate entering the oil refinery should be well grounded in the fundamentals of physics in respect to gas laws, heat transfer, flow of liquids, evaporation, condensation, etc. He should have the fundamentals of mechanical engineering, the mechanics of materials and structural design. Plenty of chemistry and mathematics are essential.

Specialized engineering is not essential for the graduate who plans to get ahead in petroleum refining; time is better spent in acquiring a fundamental knowledge through the courses provided by all reputable engineering schools, supplemented by practical refining experience. The study of standard books should be supplemented by reading technical and trade journals related to the petroleum industry. The home study should include the economics of petroleum. A young man of general ability has a little less chance to develop into a high-grade executive if he has gone through a highly specialized course than if he had more of a general training. The able executive knows how many things are accomplished without having the detailed knowledge of how they are done.

A list of recommended books will be sent to anyone interested upon receipt of a stamped and addressed envelope.

★ **Cracking Capacity Increased 2,500 Barrels Per Day—**

★ **Percent Gasoline Yield Increased 12%**

★ **Gasoline Production Doubled**

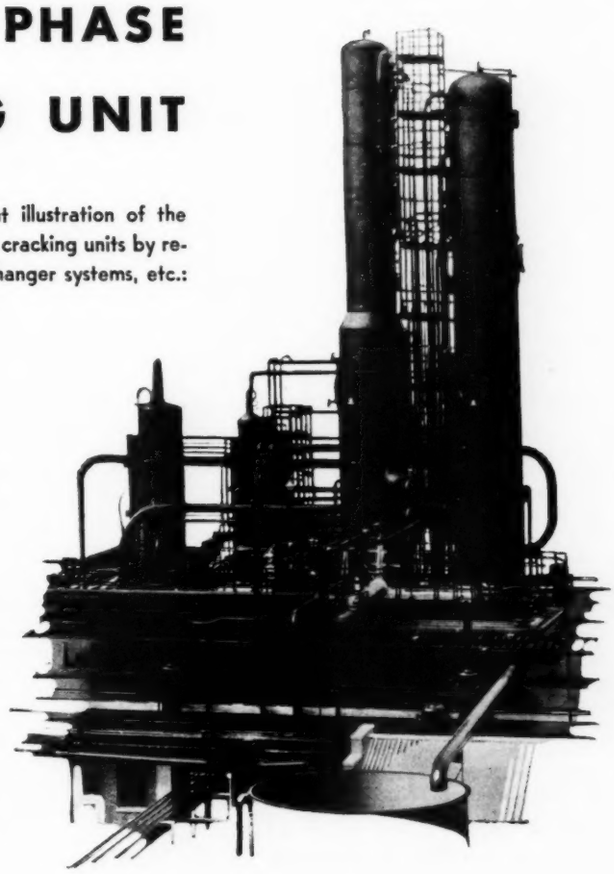
...BY MODERNIZING A VAPOR PHASE CRACKING UNIT

A recent Lummus installation furnishes an excellent illustration of the dollars and cents advantages of modernizing existing cracking units by redesigning and rebuilding furnaces, towers, heat exchanger systems, etc.:

—A 4,000 barrel per day vapor phase cracking plant was rebuilt to process 6,500 barrels per day.

—The percent yield of gasoline was increased 12% and the actual gasoline production doubled.

—Due to the advantages of the Lummus flow, the capacity of the heater was doubled—with the employment of less heating surface than was originally used.



There are dollars to be saved in production . . . and dollars to be made by increased yield . . . through the modernization of existing cracking units and topping plants. Lummus will be glad to discuss possibilities with you.

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LUMMUS

PETROLEUM REFINING PLANTS

Refiners in Mid-Continent Open Year With Runs to Stills at High Levels

By D. H. STORMONT

After passing through a year in which crude runs to stills were, with one exception, held continuously above the 500,000-bbl. mark, Mid-Continent refiners in January are running 529,115 bbls. of crude daily to their refineries. The January total, which is based on estimates supplied by refiners at the first of the month, is some 29,000 bbls. higher than those of January a year ago and represents a decrease of 6,385 bbls. from the December total.

All districts with the exception of Oklahoma and the Panhandle show a decrease for the month, Oklahoma runs being increased 8,630 bbls. daily over the December total and those of the Panhandle 850 bbls. daily. The increase in runs in Oklahoma was due for the most part to reopening of the Globe Oil & Refining Co.'s Blackwell plant and a 7,000-bbl. boost in daily crude runs at Continental Oil Co.'s Ponca City refinery. The Globe refinery has been closed down since October 1 and upon reopening is running 4,500 bbls. daily. Barnsdall Refining Co.'s Okmulgee plant will remain closed during January but the company is now renovating the plant and making minor repairs in preparation to reopening the plant about February 1. The majority of Oklahoma refiners are holding their runs at December levels during January. However, a few show decreases in runs.

NORTH CENTRAL TEXAS

North Central Texas shows the greatest decrease of any of the refining districts, runs to stills being dropped from 42,625 bbls. in December to 36,885 bbls. daily in January. Here, the reduction was mainly due to Gulf Refining Co. cutting its runs to stills in its Fort Worth plant by 5,000 bbls. daily, from 7,000 to 2,000 bbls. A great number of companies are reducing their refinery runs by 200 to 500 bbls. daily in this area. Some of these are Panhandle Refining Co., Taxman Refining Co. and Olney Refining Co. Ohio Oil Co. (Marathon) is increasing its daily runs from 3,900 to 4,200 bbls., while Continental Oil Co. and the Gainesville Refining Co. are slightly raising their schedules for January.

North Louisiana is second in the amount of reduction, 3,200 bbls. daily, and East Texas third with a decrease of 2,160 bbls. In North Louisiana none of the refineries show an increase in runs for January, while several show substantial decreases. Louisiana Oil Refining Co. is reducing runs 1,000 bbls. daily and Rodessa Oil & Refining Co. 2,000 bbls. The Converse plant of the Pelican Refining Co. will be closed down during January.

Although the total of East Texas is practically the same as that of December, there is a great variance in the individual refining schedules, many plants showing increases and a great number decreases. The plants of the Wabash Refining Co. and Panama Refining Co. are resuming operation in January after being closed down. One name change took place recently, the former Texas Oil Products Co. plant in Gladewater now being known as the Seltex Refining Co.

CONSTRUCTION ACTIVITY HIGH

During the past year there was a great amount of new plant construction and additions to plant capacity in Mid-Continent refineries, and now as the new year begins there is no apparent lessening in work under construction or that which will take place in the immediate future. The construction is not confined to any one area, but is general throughout the districts comprising the Mid-Continent.

In Oklahoma, Sunray Oil Co. is planning the addition of a 1,400-bbl. cracking unit. Barnsdall Refining Co. is rebuilding two Cross units in its Barnsdall plant and constructing two furnaces. The company is also making minor repairs at its Okmulgee refinery. Johnson Oil Refining Co. is constructing a new Dubbs unit to replace two old units. In Kansas one project now under construction is the new $65,000 refinery being erected by D. M. Dryden of McPherson, Kans. The plant is being erected in the Shallow Water field of Scott County, and will have a daily capacity of approximately 500 bbls.

Construction activity in Texas has been outstanding for some time as new plants were built to provide outlets for newly discovered fields or operators added to capacity. Premier Asphalt Co. is now erecting a 5,000-bbl. refinery in the Talco pool which will contain both cracking and asphalt facilities. One plant, that of Eugene Constantine, was recently completed in this field and is now ready to go on stream. Its capacity is 5,000 bbls. daily.

The Laredo, Tex., plant of the Texas-Mexican Oil & Refining Co. may be reopened in the near future after being closed down for some time. Gainesville Refining Co. is planning the construction of a cracking unit in its new Gainesville plant. The plant was recently enlarged to 1,800 bbls. skimming capacity. Also Rado Refining Co., after recently completing a new 800-bbl. distillation unit in its McAllen refinery, is now planning the installation of a cracking unit.

Mid-Continent Crude Runs

Average Daily (Barrels)

(Advance estimate compiled by The Oil and Gas Journal)

	1935	1936	1937
January	426,070	501,600	529,115
February	448,810	519,960	
March	451,510	478,760	
April	467,765	506,775	
May	466,015	513,510	
June	485,015	527,225	
July	494,210	539,370	
August	508,960	557,650	
September	541,080	553,215	
October	533,620	536,330	
November	524,475	548,015	
December	511,025	535,500	

Operation by Refinery Districts

Daily crude runs

	Jan.	Dec.	Decr.
Arkansas	23,600	24,225	625
East Texas	60,150	62,310	2,160
Kansas	124,500	127,640	3,140
N. Central Texas	36,885	42,625	5,740
North Louisiana	42,900	46,100	3,200
Oklahoma	148,260	139,630	*8,630
Southwest Texas	21,030	22,030	1,000
W. Tex. Panhandle	71,790	70,940	*840
Total	529,115	535,500	6,385

*Increased.

Estimated Daily Average Mid-Continent Refinery Crude Runs for January

ARKANSAS

Company and location—	Daily capacity	Av. dly. runs Jan.	Av. dly. runs Dec.
Berry Asphalt Co., Waterloo	2,000	700	1,000
Henry H. Cross Co., Smackover	6,000	5,000	5,000
Lion Oil Ref. Co., El Dorado	12,000	9,500	10,000
Macmillan Pet. Corp., Norphlet	2,500	2,000	2,000
Root Pet. Co., El Dorado	10,000	6,000	6,000
Stephens Ref. Co., Stephens	750	400	225
Total	33,250	23,600	24,225

*Shut down.

EAST TEXAS

Company and location—	Daily capacity	Av. dly. runs Jan.	Av. dly. runs Dec.
Cascade Ref. Co., Reed Switch	3,000	2,010	1,700
Chief Ref. Co., Gladewater	2,000	210	220
Clay Ref. Co., Arp	2,500	2,525	1,300
Danciger Refineries, Inc., Longview	10,000	5,000	4,000
East Texas Ref. Co., Longview	10,000	6,500	6,000
General American Ref. Co. No. 1, Gladewater	4,000	3,040	2,600
General American Ref. Co. No. 2, Overton	5,500	2,625	3,310
General American Ref. Co. No. 3, Arp	4,000	2,180	2,510
Hurricane Pet. Corp., Overton	5,000	3,690	3,480
Hurricane Pet. Corp. Arp. Ref., Arp	3,750	2,165	2,400
Johnson Ref. Co., Kilgore	1,000	700	155
Kilgore Ref. Co., Inc., Kilgore	4,000	1,250	1,685
Magnolia Pet. Co., Corsicana	5,000	3,200	3,500
Master Pet. Co., Waco	1,000	(*)	(*)
Ocean Pet. Corp., Kilgore	3,000	1,835	2,000
Premier Oil Ref. of Texas, Willow Springs	4,500	3,000	3,000
Panama Ref. Co., Kilgore	3,000	75	(*)
Seltex Ref. Co., Gladewater	3,000	1,075	1,905
Sinclair Ref. Co., Camp Switch	3,500	2,000	2,000
Solvex Refineries, Inc., Gladewater	4,500	3,000	3,000
Southport Pet. Co., Kilgore	5,000	1,480	3,000
Texas Co., The, Dallas	16,000	7,000	7,000
Trinity Ref. Co., Gladewater	6,000	1,745	2,100
Tower Ref. Co., Overton	3,000	1,945	1,580
Tyler Texas Ref. Co., Tyler	10,000	1,830	3,950
Wabash Ref. Co., Gladewater	1,000	70	*(*)
Wichita Ref. Co., Gladewater	500	(*)	70
Total	124,325	60,150	62,310

*Shut down.

KANSAS

Company and location—	Daily capacity	Av. dly. runs Jan.	Av. dly. runs Dec.
Barnsdall Ref. Co., Wichita	6,000	4,500	4,500
Chase Ref. Co., Chase	1,000	550	550
Cusco Oil & Ref. Co., Chase	3,100	(*)	(*)
Derby Oil Co., Wichita	8,000	5,000	5,000
Dickey Ref. Co., McPherson	2,500	1,700	1,700
El Dorado Ref. Co., Eldorado	5,000	3,500	3,500
Falcon Ref. Co., Inc., Great Bend	800	500	500
Globe Oil & Ref. Co., McPherson	12,000	9,500	10,500
Kanotex Ref. Co., Arkansas City	12,000	5,100	5,500
Kansas Gasoline Co., Winfield	150	(*)	40
Kreuger Ref. Co., Laton	150	50	50
National Ref. Co., Coffeyville	8,000	4,000	5,000
Pet. Products Co., Chanute	1,000	800	800
Phillips Pet. Co., Kansas City	18,000	13,400	13,400
Russell Ref. Co., Russell	1,250	600	600
Shell Petroleum Corp., Arkansas City	20,000	19,000	19,000
Sinclair Ref. Co., Coffeyville	20,000	8,500	8,500
Sinclair Ref. Co., Argentine	11,000	7,000	7,000
Skelly Oil Co., Eldorado	23,000	17,000	17,500
Socony-Vacuum Oil Co., Inc., Augusta	17,000	16,000	16,000
Standard Oil Co. (Indiana), Neodesha	20,000	5,500	5,500
Vickers Pet. Co., Potwin	3,500	2,300	2,500
Total	193,450	124,500	127,640

*Shut down.

(Continued on Next Page)

OKLAHOMA

Company and location—	Daily capacity	Av. dly. runs Jan.	Av. dly. runs Dec.
Anderson-Prichard Oil Corp., Cyril	6,000	4,500	4,500
Barnsdall Ref. Co., Barnsdall	6,000	3,100	3,500
Barnsdall Ref. Co., Okmulgee	10,000	(*)	(*)
Bell Oil & Gas Co., Grandfield	5,000	3,000	3,200
Black Gold Ref. Co., Oklahoma City	3,000	1,800	2,000
Champlin Ref. Co., Enid	16,000	6,000	6,500
Continental Oil Co., Ponca City	30,000	23,000	16,000
Cushing Ref. & Gasoline Co., Blackwell	1,700	1,700	1,700
Cushing Ref. & Gasoline Co., Cushing	6,200	2,500	2,500
Deep Rock Oil Corp., Cushing	10,000	9,000	9,000
Eason Oil Co., Enid	5,000	2,500	2,500
Empire Oil & Ref. Co., Okmulgee	4,000	2,100	2,100
Empire Oil & Ref. Co., Ponca City	12,000	7,740	8,500
Globe Oil & Ref. Co., Blackwell	8,000	4,500	(*)
Johnson Oil Ref. Co., Cleveland	6,000	3,500	4,000
Mid-Continent Pet. Corp., West Tulsa	40,000	19,000	19,200
Ohio Oil Co., Bristow	5,000	2,900	2,740
Omar Ref. Co., Garber	8,000	2,500	2,500
Peppers Gasoline Co., Oklahoma City	500	450	500
Phillips Pet. Co., Okmulgee	6,000	4,500	4,700
Pure Oil Co., Muskogee	10,000	9,720	8,380
Rock Island Ref. Co., Beckett	6,000	2,500	2,500
Sinclair Ref. Co., Sand Springs	8,000	4,500	4,500
Sooner State Ref. Co., Oklahoma City	700	350	350
Sun Oil Co., Yale	5,000	2,000	2,000
Sunray Oil Co., Allen	7,000	3,000	3,000
Texas Co., West Tulsa	15,000	10,500	11,000
Tide Water Oil Co., Drumright	15,000	8,000	8,000
Triangle Prod. & Ref. Co., Oklahoma City	1,200	1,000	800
S. L. West Ref. Co., Oklahoma City	1,000	200	200
Wilcox Oil & Gas Co., Bristow	6,000	2,200	2,260
Yale Oil Corp., Yale	2,000	(*)	(*)
Total	165,300	148,260	139,063

*Shut down.

NORTH LOUISIANA

Company and location—	Daily capacity	Av. dly. runs Jan.	Av. dly. runs Dec.
Acme Ref. Co., Monroe	100	50	50
Atlas Pipe Line Co., Shreveport	12,500	7,000	7,000
Bayou State Oil Corp., Hosston	750	350	400
Griswold Refineries, Shreveport	2,500	1,000	1,000
Griswold Refineries, Sandra	5,000	2,000	2,000
Louisiana Oil Ref. Co., Bossier City	25,000	20,000	21,000
North Caddo Refinery, Rodessa	1,000	500	600
Pelican Ref. Co., Converse	100	(*)	50
Rodessa Oil & Ref. Corp., Cedar Grove	7,500	5,000	5,000
Shoreline Oil Co., Lewis	5,000	3,000	5,000
Stanolind Oil & Gas Co., Superior	5,000	4,000	4,000
Texas Co., Shreveport	1,000	(*)	(*)
Total	64,450	42,900	46,100

*Shut down.

SOUTHWEST TEXAS

Company and location—	Daily capacity	Av. dly. runs Jan.	Av. dly. runs Dec.
Amsco Ref. Co., Mirando City	4,500	3,150	3,600
Humble Oil & Ref. Co., San Antonio	5,000	2,900	2,900
Imperial Gasoline Corp., Houston	4,000	700	700
Ina Oil & Ref. Co., Hondo	400	50	50
Magnolia Pet. Co., Luling	8,000	6,000	6,100
Pettus Oil & Ref. Co., No. 1 Pettus	1,000	800	800
Pettus Oil & Ref. Co., No. 2, Midway	1,000	650	850
Phoenix Ref. Co., San Antonio	1,200	1,000	1,000
Phoenix Ref. Co., Bruni	900	600	600
Pioneer Oil & Ref. Co., Somerset	2,000	1,200	1,200
Rado Ref. & Prod. Co., McAllen	500	200	250
Ranne Ref. Co., Mathis	1,000	500	500
Rio Oil & Ref. Co., Sullivan City	1,000	300	300
Texas Co., San Antonio	3,000	2,800	3,000
Valley Ref. Co., Harlingen	1,000	180	180
Total	34,500	21,030	22,030

*Shut down.

NORTH CENTRAL TEXAS

Company and location—	Daily capacity	Av. dly. runs Jan.	Av. dly. runs Dec.
Allstate Ref. Co., Thrall	2,500	(*)	(*)
Baird Ref. Co., Baird	1,500	1,200	1,200
Continental Oil Co., Wichita Falls	6,000	4,100	4,000
Crown Oil Co., Fort Worth	1,200	600	700
Exchange Pet. Corp., Albany	800	200	200
Falls Ref. Co., Wichita Falls	2,000	300	300
Gainsville Ref. Corp., Gainesville	1,800	1,500	1,200
Gratex Ref. & Fuel Oil Co., Graham	500	300	300
Gulf Ref. Co., Fort Worth	10,000	2,000	7,000
Hightower Oil & Ref. Corp., Brownwood	750	100	100
Jacksboro Ref. Co., Jacksboro	50	50	50
La Salle Pet. Co., Burkburnett	3,500	800	800
Magnolia Pet. Co., Fort Worth No. 1	12,000	5,600	5,800
Norgold Ref. Co., West Olney	400	200	200
Ohio Oil Co., Fort Worth	5,000	4,200	3,900
Olney Oil & Ref. Co., North Olney	3,500	1,500	1,800
Panhandle Ref. Co., Wichita Falls	3,300	2,100	2,350
Panhandle Ref. Co., Lueders	1,000	510	500
Pilot Point Ref. Co., Pilot Point	500	100	100
Sinclair Ref. Co., Fort Worth	5,000	3,000	3,000
Southland Ref. Co., Megargel	500	200	200
Taylor Ref. Co., Taylor	6,000	800	800
Taxman Ref. Co., Wichita Falls	3,000	2,200	2,500
Texas Pacific Coal & Oil Co., Caddo	350	175	175
Texas Pacific Coal & Oil Co., Strawn	125	50	50
Tucker Ref. Co., Wichita Falls	250	200	200
Tydal Refining Co., Gainesville	2,000	1,200	1,500
Wagoner Ref. Co., Electra	6,000	3,700	3,700
Total	79,525	36,885	42,625

*Shut down.

WEST TEXAS AND PANHANDLE

Company and location—	Daily capacity	Av. dly. runs Jan.	Av. dly. runs Dec.
Aero Ref. Co., Pecos	200	100	100
Coltex Ref. Co., Colorado	12,500	8,000	8,000
Concho Ref. Co., San Angelo	250	100	100
Cosden Oil Co., Big Spring	12,500	10,000	10,000
Danciger Refs., Inc., Pampa	6,500	5,000	4,500
Gibson Oil Corp., Magic City	250	150	150
Gulf Ref. Co., Sweetwater	7,500	5,400	5,400
Howard County Ref. Co., Big Spring	1,500	600	600
McNutt Ref. Co., El Paso	2,000	750	750
Moutray Oil Co., Hawley	1,200	1,100	1,200
Onyx Refining Corp., Hawley	1,500	1,300	1,000
Panhandle Ref. Co., Kings Mill	2,000	1,600	1,650
Phillips Pet. Co., Borger	50,000	20,800	20,800
Shamrock Oil & Gas Corp., Sunray	2,500	1,500	1,250
Shamrock Oil & Gas Corp., Meldavis	1,600	1,500	1,250
Standard Oil Co. of Texas, El Paso	14,000	6,600	6,600
Starlight Ref. Co., Ballinger	500	150	150
Texas Co., El Paso	2,000	1,000	1,000
Texas Co., Amarillo	4,000	2,800	2,800
West Texas Ref. Co., Pecos	6,000	1,200	1,500
Western Ref. Co., Mertzon	1,000	400	400
West Texas Oil & Ref. Co., Sweetwater	60	40	50
Wickett Pet. Co., Wickett	2,500	1,700	1,700
Total	126,760	71,790	70,940

*Shut down.

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FIELD OPERATIONS

Summarizing the Week's Developments

The large increase in completed wells reported this week was occasioned in part by the fact that the holidays held up the completion of many wells until after New Year's day.

OKLAHOMA

Work was started at a wildcat in northwestern Kay County, one-half mile south of the Kansas line. Wilcox sand is the goal. Eleven oil wells were completed in the Olympic pool, Okfuskee and Hughes counties. A new well in the Crescent field, Logan County, made a potential of 27,048 bbls.

KANSAS

A total of 53 new wells, including seven wildcats, were reported in Kansas. Thirteen of the new tests were in Russell County, 10 in Rice County and nine in Barton County. A wildcat opened a new producing area north of the Reece pool, Greenwood County. A 3,700-bbl. well was completed in the Warkentine pool, Harvey County.

LOUISIANA-TEXAS

A new producing zone in the Lake Bistineau area in Bienville Parish, Louisiana, and definite indications of an oil discovery near Texarkana, Ark., were features of the North Louisiana-Texas-Arkansas area. Most of the Rodessa completions continue to come in on the Texas side of the field which is rapidly gaining on the older Caddo Parish side.

TEXAS

What may be the first pool of the new year in West Texas lies 4 miles west of the O'Brien field in Ward County. A test in Denton County in the northeastern part of the state blew in with 10,000,000 feet of gas the first showing of oil or gas in the county, which lies north of Fort Worth. A 16,000,000-foot gas well producing 200 bbls. of distillate was a feature in Young County. The deepest test ever drilled in North Texas, Sinclair Prairie Oil Co. No. 1 McCall in Cooke County was dry and abandoned at 8,331 feet. Talco in Titus and Franklin counties had 17 new oil wells reported in the past week, while 76 new wells were reported in the East Texas field. A fourth and deeper pay was opened in the Pearsall field in Southwest Texas, the well making gas and some oil, or distillate. The world's deepest commercial producer, Texas Co. No. 5 Rigolettes in Jefferson Parish, Coastal Louisiana, was completed at a total depth of 10,250 feet good for 1,549 bbls. initially through a fractional-inch choke. A third producing sand was opened in the Jennings field in Louisiana.

ROCKY MOUNTAIN FIELDS

In Wyoming the Badger Basin field was enlarged 1,000 acres when a 200-bbl. light-oil well was completed. The big gas well discovery on Allen Lake dome in Carbon County will be killed and the test deepened. In Montana the second deep test in Fallon County is showing oil at 6,700 feet. Thirteen oil wells were completed in Lea County, New Mexico, and 28 new operations started, of which the Gulf Oil Corp. reported seven new starts.

MICHIGAN

Michigan opened the year auspiciously with the possibility of a new field in Gladwin County and completing 26 wells, the best week's work in months.

CALIFORNIA

The test of Barnsdall Oil Co. in the Newhall area in southern California is expected to prove a pool discoverer within a week or 10 days. It is bottomed in an oil sand of Miocene age, which has proved very productive in other Los Angeles Basin fields. California operators look for a year of great activity in the field, especially in the fields opened in 1936 and 1935.

Completions in All Fields

(Week Ending January 9, 1937)

	Oil	Gas	Dry	Total	1937 total comp. to date	1936 total comp. to date
Penna. Grade Fields	25	5	15	45	100	101
Lima Field	0	0	0	0	6	4
Central Ohio	2	3	6	11	38	10
Indiana	0	0	0	0	3	9
Illinois	0	0	0	0	0	0
Michigan	10	6	10	26	41	14
Kentucky	6	0	2	8	13	10
Kansas	33	1	10	44	69	62
Oklahoma	36	4	12	52	92	112
Texas:						
North and Central Texas	27	4	30	61	122	88
West Texas	37	1	6	44	73	46
Texas Panhandle	9	4	0	13	24	29
East Central Texas	23	0	5	28	32	11
East Texas	76	0	2	78	99	101
East Texas border	16	0	2	18	26	0
Gulf Coast Texas	21	1	11	33	48	36
Southwest Texas	54	2	13	69	114	71
Total Texas	263	12	69	344	538	382
North Louisiana	5	4	3	12	14	21
Gulf Coast Louisiana	6	0	2	8	24	23
Total Louisiana	11	4	5	20	38	44
Arkansas	0	0	0	0	0	6
Montana	1	0	0	1	4	5
Wyoming	4	0	1	5	7	4
Colorado	0	0	1	1	1	1
New Mexico	13	0	0	13	25	15
Utah	0	0	0	0	0	1
California	17	2	9	28	50	49
Total United States	421	37	140	598	1,025	829
Total previous week	280	37	110	427		
Difference	141	0	30	171		

Outstanding Fields—Highlights

(Week Ending January 9, 1937)

FIELD—	Rigs up	Wells drlg.	Weekly oil completions	Initial prod.	Total No. oil wells	Daily av. prod.
TEXAS						
Anahuac	4	4	2	1,112	141	9,212
Hastings	4	7	1	480	126	8,787
Loma Novia	2	3	5	1,580	637	15,265
Seven Sisters	2	5	7	3,940	354	8,240
Saxet Heights	3	7	2	470	197	9,190
Saxet	7	34	8	1,150	313	22,700
Lopez	4	5	8	2,660	266	6,340
East Texas	26	104	76	3,071	21,960	452,200
Talco	20	25	17	2,928	169	16,324
OKLAHOMA						
Oklahoma City	4	18	0	0	1,087	135,550
Fitts	10	67	7	7,008	578	69,250
Burbank-So. Burbank	0	5	3	814	2,163	36,050
KANSAS						
Ellis County	3	17	0	0	72	5,288
Reno County	7	20	2	720	354	16,045
Russell County	7	50	7	12,994	543	23,850
Rice County	12	36	9	7,019	660	31,834
NEW MEXICO						
Lea County	9	81	13	2,329	1,070	78,540
LOUISIANA-TEXAS						
Rodessa, La.	3	15	1	791	337	54,025
Rodessa, Tex.	8	44	16	7,414	165	33,555
Gillis, La.	3	5	0	0	57	18,250
Tepetate, La.	2	4	0	0	39	6,037
MICHIGAN						
Porter-Yost	4	6	1	115	424	13,850
Crystal-Montcalm	6	5	0	0	146	3,070

North Louisiana, Arkansas

By MITCHELL TUCKER

ANOTHER PRODUCTIVE ZONE IN LAKE BISTINEAU DISTRICT

SHREVEPORT, Jan. 11.—A new producing zone for the Lake Bistineau area of Bienville Parish, testing of a deeper level at Cotton Valley, definite indications of a new oil field near Texarkana, Ark., and showings in other important wildcat tests, headed developments in an active week in the Ark.-La.-Tex. territory.

The total number of producers in the Rodessa field passed the 500 mark for the week, while daily average production averaged 87,582 bbls., 54,026 bbls. from the Louisiana side and 33,556 bbls. from the Texas side.

Rodessa operators in the past week have been adjusting their wells to the new manner of allocation, 50 per cent acreage and 50 per cent bottom-hole pressure. Gas-oil ratio tests are being made and wells exceeding the allowable figure are either classed as gas wells, or scheduled for immediate reconditioning. Eighteen former distillate wells which were reclassified as gassers on the recent order are now shut down for want of a market. The remainder of the 60 wells so reclassified have an outlet.

P. L. Hoffman and others extended the southwestern limit of Rodessa field by the completion of their No. 1 Davis in the James S. Smith Survey, flowing 25 bbls. an hour through three-eighths inch tubing choke, total depth 6,016 feet.

The two important Marion County tests, which may result in extensions to the Rodessa field 14 miles to the southwest, are being closely watched. Arkansas Natural Gas Co. No. 1 W. S. Ford, Charles Grayson Survey, is drilling below 3,350 feet after topping Wachita at 3,064 feet.

Holcomb and Thomason's No. 1 Lizzie Henderson, R. Bennington Survey, just north of Jefferson, Tex., and 14 miles southwest of production which last week reported attractive showings in the Gloyd formation, is now bottomed at 6,075 feet. The operators plan to run a 7-inch oil string before deepening. The 10¾-inch water string was recently set at 2,100 feet in accordance with state regulations. Having an elevation of 221 feet, massive anhydrite was drilled in this well from 5,488-5,726 feet. Hill sand was topped 5,860 feet and Gloyd 5,958 feet, where the 3,000,000-foot gas showing was indicated on a drillstem test from 5,958-90 feet through one-half inch tubing choke at both top and bottom.

From 5,935-49 feet the core showed saturation and porosity; also from 5,955-6,002 feet, and medium porous lime was cored from 6,002-6,032 feet, but no core recovery was reported. All this section showed porosity with gas and distillate saturation, although only the one drillstem test was made. The significant fact about the cores from the Gloyd is that they did not carry any signs of water. The water table of Rodessa field proper in the Young oil sand is higher than the tested and cored section of Gloyd near Jefferson, where no water was in evidence. Future drilling and testing of the Dees and Young sands will determine the ultimate importance of this wildcat extension.

Rodessa Completions

United Gas No. 4 Harris, NW NW SE section 15-23-16, flowed 791 bbls. in 24 hours through three-eighths inch tubing choke, total depth 6,018 feet.

American Liberty No. 1 White and Walker, J. H. Rives Survey, flowed 12 bbls. an hour through one-fourth inch tubing choke, saturation topped 5,997 feet, total depth 6,032 feet.

Eastern Texas No. 1 Belote, H. Holbert Survey, topped varicolored lime at 5,930 feet, indicating its position on down-throw side of the fault, and was abandoned at total depth of 5,980 feet.

Magnolia Petroleum Co. No. 9 J. E. George, John Collom Survey, flowed 270 bbls. in 17 hours through one-fourth inch tubing choke, saturation 6,008 feet, acidized with 1,000 gallons, total depth 6,025 feet.

Magnolia Petroleum Co. No. 11 Rives, John Collom Survey, flowed 324 bbls. in 24 hours through one-fourth inch tubing choke, total depth 6,063 feet.

Phillips Petroleum Co. No. 3 Chew, Robert Trammel Survey, flowed 295 bbls. in 24 hours through one-fourth inch tubing choke, total depth 5,996 feet.

Phillips Petroleum Co. No. 2 Farrier, William Myers Survey, flowed 18 bbls. an hour through three-eights inch tubing choke, saturation 5,960 feet, total depth 6,072 feet.

Phillips Petroleum Co. No. 2 Skinner, S.F.I.W. Survey 1205, flowed 598 bbls. in 24 hours through one-fourth inch choke, total depth 6,125 feet.

United Gas No. 2 G. W. Bibby unit, Alex Archer Survey, flowed 22 bbls an hour through one-fourth inch tubing choke, saturation 6,014 feet, total depth 6,050 feet.

United Gas No. 9 J. R. Jones unit, Ben J. Murray, flowed 45 bbls. an hour through three-eighths inch tubing choke, saturation 5,855-80 feet, total depth 6,013 feet.

United Gas No. 10 J. R. Jones unit, Mile Mound No. 66, flowed 27 bbls. an hour through three-eighths inch choke, saturation 6,011 feet, total depth 6,030 feet.

United Gas No. 8 Rambo unit, flowed 21 bbls. an hour through three-eighths inch choke, total depth 6,009 feet.

United Gas No. 4-A Tyson, flowed 15 bbls. an hour through one-fourth inch tubing choke, total depth 6,035 feet.

United Gas No. 3 G. W. Bibby unit, Alex Archer Survey, flowed 527 bbls. in 24 hours, saturation 5,983 feet, total depth 6,035 feet.

United Gas No. 4 G. W. Bibby unit, Alex Archer Survey, flowed 437 bbls. in 24 hours, saturation 5,994 feet, total depth 6,050 feet.

Texas Co. No. 1 N. A. Rambo, School Land Survey, flowed 304 bbls. in 24 hours through one-fourth inch choke, total depth 6,079 feet.

Texas Co. No. 2 J. B. McLeod, Elliott Survey, flowed 229 bbls. in 24 hours through one-fourth inch choke, total depth 6,088 feet.

Bienville Parish

The DeSoto Oil and Gas Co. has definitely opened up a new deep producing horizon in the Lake Bistineau shallow gas area by completion last week of its No. 1 Dunn and Olsen, CN half NW section 15-16-10. Massive anhydrite was drilled from 3,985 to 4,217 feet. The Oolitic lime, probably corresponding to the Gloyd at Rodessa, of Lower Glen Rose age, was topped at 5,200 feet. The 7-inch was cemented at 5,137 feet, and on potential test the well flowed 20,000,000 feet of saturated gas through 2½-inch tubing, closed-in rock pressure 2,310 pounds, total depth 5,235 feet.

Caddo Parish

Shreveport Oil Co. completed its No. 8-B Muslow in the Caddo field, SW NW section 4-20-15, pumping 30 bbls. a day, total depth 2,165 feet.

Simplex Oil Co. No. 10 Youree, NW SW section 7-20-14, has been junked and abandoned at 1,898 feet without reaching its objective.

Stanolind Oil & Gas Co. No. 115 Dillon, SW SE section 14-21-15, pumped 30 bbls. a day after acidizing, total depth 1,663 feet, for a routine completion at Pine Island.

Claiborne Parish

Tentatively termed the Lisbon field, E. T. Oakes and H. D. Easton's new discovery well in the northeast of section 1-20-5, No. 2 W. H. Patton, flowed 90 bbls. a day through 18/64-inch tubing choke, tubing pressure 150 pounds. The second 24-hour gauge showed 110 bbls. through 20/64-inch choke, tubing pressure 125 pounds. Gravity of oil is 36-6 degrees A.P.I. corrected. Little gas is associated with this oil. Saturated Lower Glen Rose was topped at 5,346 feet, total depth 5,379 feet. Lack of tankage and other reasons have delayed deepening or further cleaning of this hole, and it is thought that the completion gauges given are only a fraction of what the well would do under favorable conditions. Since initial testing the well gauged 134 bbls. in 24 hours through one-half inch choke, and it is reported that pressure is gradually increasing. Hopes are held that the new discovery will eventually increase its present flow.

DeSoto Parish

Coleman Gas Co. No. 1 Taylor, SE NE SW section 18-12-11, tested 1,000,000 feet of gas on completion gauge, total depth 872 feet.

Red River

W. J. Hunter and others No. 1 Long Bell Lumber Co., NE NE section 19-13-9, has been plugged and abandoned after testing salt water for the second time at total depth of 3,723 feet. Showings of oil and gas were noted prior to abandonment.

Rapides Parish

A deep test of the Rapides territory seems assured as leasing activity on both sides of the river between Alexandria and Boyce continues brisk. One contract stipulation in large lease block calls for a 6,000-foot test to be commenced on or before February 1.

Sabine Parish

A. L. Braden No. 1 Graham, SE NE section 19-9-13, pumped 65 bbls. a day after acidizing, total depth 1,710 feet.

The Hunter Co. and others No. 18 Sabine Lumber Co., extension test of Zwolle field, SE section 28-8-13, has been abandoned after testing salt water only from total depth of 2,784 feet.

Morehouse Parish

Two routine completions were made in the Monroe gas field, having aggregate flow of 4,000,000 feet daily, average rock pressure 800 pounds.

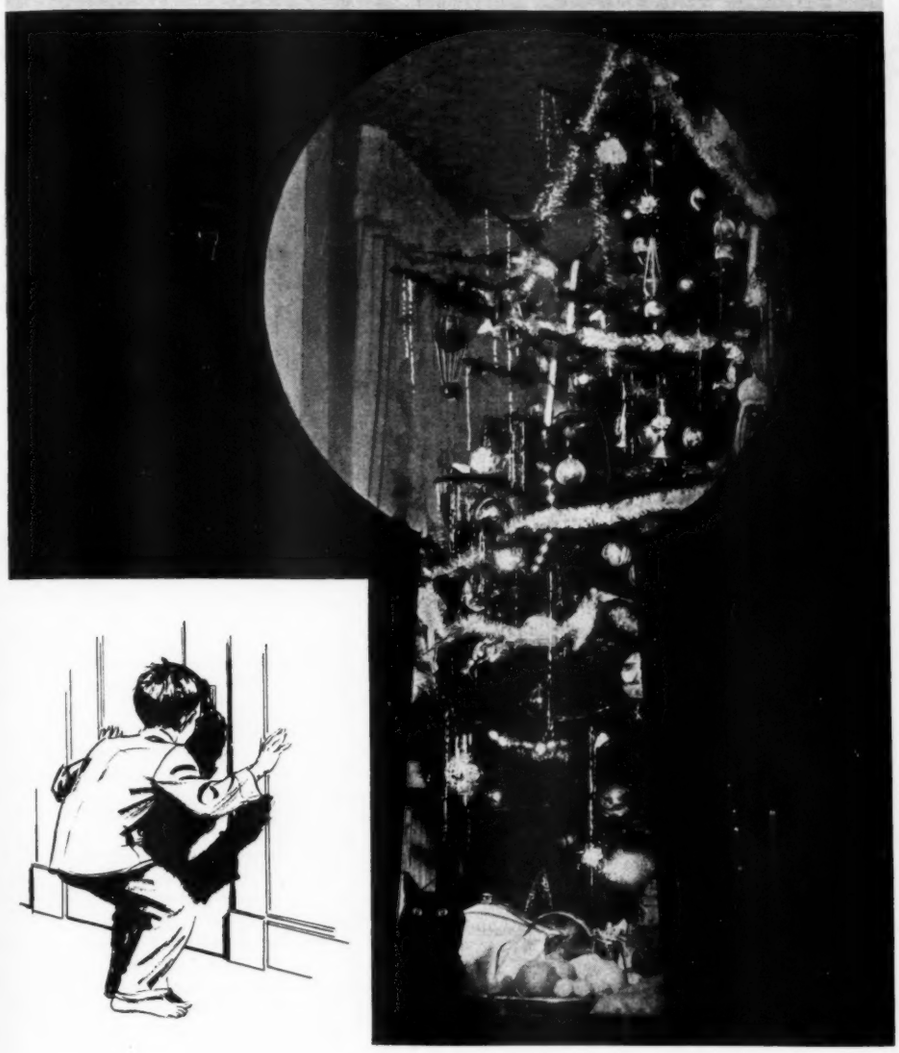
Webster Parish

Standard Oil Co. of Louisiana's important test of the Sibley area neared the testing point this week. Its No. 1 E. Fudicker, NW corner 2-17n-9w, about 1 mile southwest of the three gas-distillate producers at the discovery point of the field, had base of massive anhydrite at 5,272 feet and has been coring the saturated gas zones at approximately the same levels as found in the discovery well. It was expected that this well would be sufficiently down-flank to encounter oil accumulation, if present.

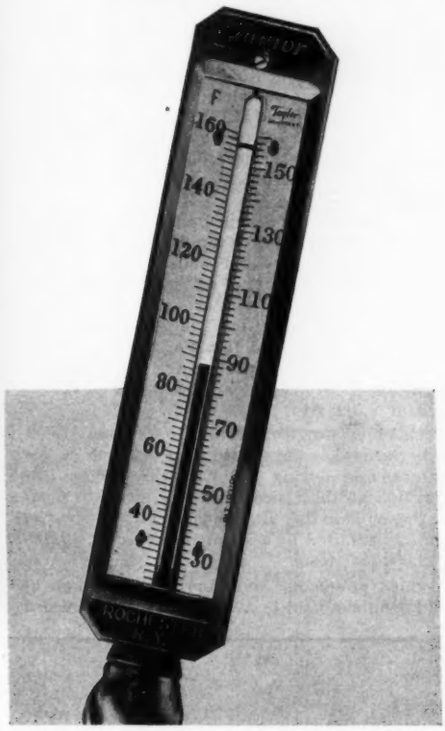
Testing of the 8,100-foot producing horizon at

(Continued on Page 89)

JOHNNY STEALS A PEEK—



but... A KEYHOLE VIEW ISN'T ENOUGH FOR ACCURATE THERMOMETER READINGS



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Texas and Louisiana Gulf

By
F. L. SINGLETON

WORLD'S DEEPEST PRODUCER GOOD FOR 1,549 BARRELS DAY

HOUSTON, Tex., Jan. 11.—The world's deepest commercial producer was completed the past week in Coastal Louisiana by the Texas Co. which finaled its No. 5 Rigolettes at the Lafitte field in Jefferson Parish, for an initial production of 1,549 bbls. of 35.5 gravity oil per day from a screen setting at 10,159 feet, which is the top of the cement plug. The well was completed through a three-eighths inch choke and the tubing pressure registered 1,350 pounds. Temperature of the oil was 72 degrees.

The well is bottomed in a sidetracked hole at 10,250 feet and was completed through perforated 7⅝-inch-casing cemented at 10,244 feet. The old hole was bottomed at 10,942 feet and the bit was sidetracked at 7,032 feet after the company was unable to recover the drill stem which was stuck at 10,932 feet.

No. 5 Rigolettes extends production 1,700 feet south and opens the sixth producing horizon for the field which has several wells producing from separate sands at 9,300, 9,400, 9,500, 9,600 and 9,900 feet. While this well was being completed preparations were being made by the company to perforate the casing and test No. 1 R. C. Milling located in the northern part of the field which is also bottomed in oil sand at 10,040 feet that was topped at 9,941 feet.

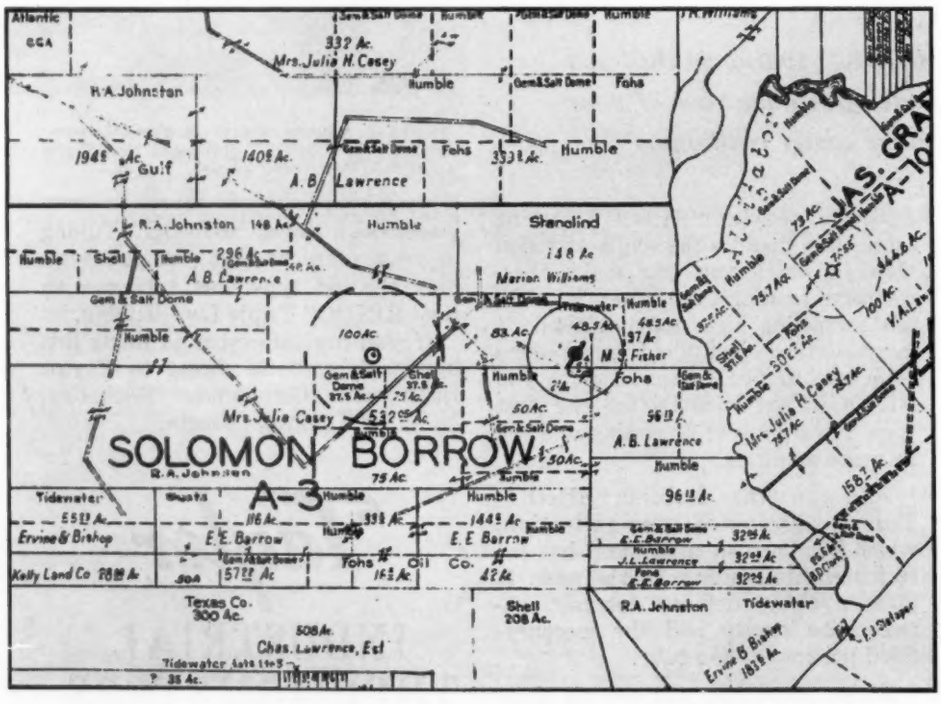
Commercial production from 10,000- and 11,000-foot horizons has been the goal of Gulf Coast operators, and during the past three years the exploration of these deeply seated structures has been the outstanding development in the district which has resulted in a steady increase of 10,000- and 11,000-foot tests.

A third producing sand for the west flank of the old Jennings field in Acadia Parish was opened by the completion of Superior Oil Producing Co. No. 1 Jennings Heywood which flowed 517 bbls. of pipe-line oil per day through a 14/64-inch choke with tubing pressure 1,180 pounds and casing pressure 1,310 pounds. The hole is bottomed at 6,759 feet and the well was completed through perforated casing from 6,460-6,520 feet. All wells on this flank of the dome were completed by Superior. No. 1 William Leckelt was the first well, completed in oil sand at 6,352-6,357 feet and No. 1 Eunice Crowley is flowing from oil sand from 5,450-5,550 feet. On the south flank in section 40, Shell Petroleum Corp. No. 2 Community cored oil sand from 7,004-19 feet and is now reaming for a drill stem test.

Abbeville Prospect

At the Abbeville Prospect, Vermilion Parish, Continental Oil Co. is preparing to drill plug preparatory to testing No. 1 O. C. Hebert which is bottomed in sand showing oil and gas at a depth of 12,216 feet. Five-inch casing was cemented at 11,795 feet, and the plug is being drilled. The top of the sand section is reported to be 12,197 feet. Southeast of this test another wildcat is reaching the 11,000-foot horizon, Stanolind Oil & Gas Co. No. 1 Stovall located on the South Abbeville Prospect which is scheduled to drill for the same sand that is being tested in the Continental well. At the end of the week it was below 10,850 feet.

Superior Oil Producing Co. No. 1 A. Savoie, the discovery well of the Cankton field, St. Landry Parish, reperforated the casing from 5,320-23½ feet and was being swabbed in when the tubing sanded up and the operators are now working with the plugged tubing. The casing pressure recorded 800 pounds of pressure.



Approximate location of Salt Dome Oil Corp. No. 1-A Lawrence, 2½ miles south of Cotton Lake field, Chambers County (indicated by large circle) which is preparing to test the Frio sand through perforated casing at 6,481-92 feet. Two dry holes in the area are shown by smaller circles.—(W. W. Zingery, Maps, Houston)

Two more locations were announced for the West Hackberry field in Cameron Parish. Stanolind Oil & Gas Co. No. 1 J. H. Duhon was staked in section 27-12s-10w, while Superior Oil Producing Co. No. 1 C. Hebert is situated in section 33. In the East Hackberry field, Union Sulphur Co. No. 23 Valery Doron flowed 388 bbls. per day through a quarter inch choke from a depth of 3,981 feet.

The Johnson Bayou Prospect, Cameron Parish, recently explored by Magnolia Petroleum Co., received its second location by the same company's No. 1 Gray Heirs, located 330 feet north and west of the southeast corner of the southwest corner of section 8-15s-14w, being situated a mile west and slightly north of No. 1 School Land which was abandoned below 9,200 feet.

At Bayou Mallet, Superior Oil Producing Co. No. 1 Clenny Savoie topped oil sand at 6,983 feet, and is reaming the hole to run casing after coring to a depth of 6,985 feet. Location is in section 47-7s-1e.

One completion was reported for the Roanoke field in Jefferson Davis Parish while another had reached the sand and was waiting on cement to set. Humble Oil & Refining Co. No. 3 Thomas in section 11, was completed at 8,692 feet for an initial production of 21 bbls. per hour through a quarter-inch choke with tubing pressure 1,000 pounds. In section 12, Shell Petroleum Corp. No. 6 Kratzer is bottomed at 9,069 feet and casing has been cemented.

At the Garden Island field, Plaquemines Parish, Texas Co. No. 20 State located in section 37, was completed in a sidetracked hole at 4,639 feet and flowed 406 bbls. per day through three-eighths inch choke. Seven and five-eighths inch casing was cemented at 4,639 feet and the casing was perforated from 4,442-75 feet.

Sandy Point

Along the Texas Gulf Coast interest has shifted to the Sandy Point area, Brazoria County, where C. B. Bunte and others No. 1 J. A. Fite is coring ahead in the Marginulina horizon at 6,500 feet after encountering a reported showing of gas in that section. Based on geological markers the well is reported to be checking high which has created an active leasing and royalty play throughout the area. Stanolind Oil & Gas Co. and Sun Oil Co. hold considerable acreage around the well which is located in the center of a 10-acre tract in the D. Talley Survey.

The second test for the new Clinton field, Harris County, was announced by Stanolind Oil & Gas Co. for No. 1 D. A. Oates, situated 900 feet from the south line and 330 feet from the west line of the Oates 720-acre lease or approximately 4,150 feet south of the discovery well in the C. Martinez Survey. The discovery well was completed for a high pressure distillate producer from a depth below 8,000 feet, after it tried to blowout, consequently very little is known about the producing formation and much is expected to be revealed by the drilling of this second test.

Prospects of developing a deeper producing horizon at the South Bay City field in Matagorda County by Hamman Exploration Co. No. 1 J. H. Crocker were given a set back when the well tested 7,500 feet of salt water with no shows of oil or gas through perforated casing, on a one and a half hour drill stem test from 9,405-15 feet. The perforations have been cemented off with 50 sacks of cement and another test is sched

(Continued on Page 84)

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Among Gulf Coast Drilling Contractors

Thompson Drilling Co. who recently completed the discovery well of the Segno field in Polk County, received contract for S. J. Ryan No. 1 Wing Estate located southwest of the discovery well and the rig is being moved in.

Ben (Bud) Coyle is completing Herton Oil Co. No. 6 Banta at the Jeanerette field and is rigging up at No. 4 Carter for the same company.

Edwards Drilling Co. marked up a 1½-mile southeast extension to the Engleman area, Hidalgo County, by the completion of Pantana Petroleum Co. No. 1-B Engleman which was completed for a distillate producer at a plugged back depth of 6,600 feet. Contract for another well in this area is expected to be let during the next week.

Nicklos Drilling Co., who proved up the Valentine salt dome prospect in Lafourche Parish as a commercial oil field for the Pan American Production Co., received contract for the company's No. 2 Herang, located 45 feet north and 660 feet east of the discovery well. Contract was also received from the same company for No. 3 Cormier at the Port Barre field.

Rutherford Drilling Co. is rigging up three locations made at the Van Vleck field by the Skelly Oil Co. They are No. 2 W. P. Johnson, No. 2 Rugely and No. 1 First National Bank.

There were 24 locations announced for the Gulf Coast district the past week. In the Anahuac and Fannett fields, Gulf Oil Corp. made locations for No. 2 Pommer and No. 1 Junker. Sun Oil Co. is rigged up for No. 6 Hughes at Greens Lake while Sun Oil Co. is starting two wells at the Nome field, No. 1 Mouboules and No. 3 Long. The majority of the new activity was started at the Hastings and Heyser fields in Brazoria and Calhoun counties by the Stanolind Oil & Gas Co. and Humble Oil & Refining Co. Five locations were reported at Hastings while five were reported from the Heyser field. Derricks were up for three wildcats, Mills Bennett is drilling No. 1 J. W. Williams in the Greens Lake area of Galveston County, Eden Oil Co. is starting No. 1 Trulla Wells about 3 miles from Altair area while in Fayette County, McNeil Petroleum Co. is scheduled to spud No. 1 Dybla.

The following is a summary of active rigs reported by the various contractors at the close of the week:

Contractor and location—	No. rigs	Company	Status
Loffland Brothers:			
Jeff Davis (wild.)	1	H. M. Naylor	R.U.
Matagorda County (wild.)	1	Continental Oil Co.	Drlg.
Tepetate	2	Continental Oil Co.	Tstg.
Vermilion Parish	1	Continental Oil Co.	Tstg.
Charenton	1	Pan American Prod. Co.	Drlg.
Nicklos Drilling Co.:			
Port Barre	1	Pan American Prod. Co.	Drlg.
Valentine	1	Pan American Prod. Co.	R.U.
Tepetate	2	Continental Oil Co.	Drlg.
Smith & McDannald:			
Louise	1	Pure Oil Co.	R.U.
South Houston	2	South Houston	Drlg.
Conroe	1	Houston Oil Co.	Drlg.
Cankton	1	Superior Oil Prod. Co.	Tstg.
Jennings	1	Shell Petroleum Corp.	Tstg.
Lafayette (wild.)	1	Shell Petroleum Corp.	Drlg.
Matagorda County (wild.)	1	Mayo and others	Drlg.
Long Lake	1	Tide Water Oil Co.	Drlg.
George Echols:			
Goliad (wild.)	1	Sun Oil Co.	R.U.
Refugio	1	Josey and Bruton	Drlg.
Gillis	1	Fohs Oil Co.	Drlg.
Rowan Drilling Co.:			
Fairbanks	1	Amerada-Stanolind O. & G.	Drlg.
Plaquemines Parish (wild.)	1	Tide Water Oil Co.	Drlg.
Ben (Bud) Coyle:			
Jeanerette	3	Herton Oil Co.	Drlg.
Harry L. Edwards:			
Dickinson	1	Kenben Oil Co.	Drlg.
Edwards Drilling Co.:			
Magnet	1	Texas Crusader Oil Co.	Drlg.
Hidalgo	1	Pantana Petroleum Corp.	Comp.
Cron and Gracey:			
Hitchcock	1	Shell Petroleum Corp.	S.D.
Flour Bluff	1	Humble Oil & Refining Co.	Comp.
South Houston	1	Stanolind Oil & Gas Co.	Drlg.
West Columbia	1	Texas Co.	Drlg.
Aransas County	1	Barnsdall Oil Co.	Drlg.
Roanoke	1	Shell Petroleum Corp.	Tstg.
Rutherford Drilling Co.:			
Van Vleck	3	Skelly Oil Co.	R.U.
Buckeye	1	United North & South Dev.	R.U.
H. J. DeArman:			
Brazoria (wild.)	1	C. B. Bunte	Drlg.
Liberty County (wild.)	1	Kenso Oil Corp.	R.U.
Thompson Drilling Co.:			
Segno	1	S. J. Ryan	R.U.

QUESTIONS
(For answers see below to left)

1. Is there any safe tool for enlarging the diameter of a drilled hole?
2. Does it have positive, mechanical means of controlling the cutting members?
3. How about clearance in case the drill pipe should twist off?
4. What is the reaming capacity of this wall scraper?
5. What other work can be done with this tool?
6. Where can I get details and prices on the Baker Wall Scraper?

ANSWERS
(to questions above at right)

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Oklahoma Operations

By DAL DALRYMPLE

ELEVEN NEW OLYMPIC WELLS; START KAY COUNTY WILDCAT

The two-county Olympic pool led Oklahoma fields in number of completions the past week, with nine new oil wells on the Okfuskee County side and two in the Hughes County sector. The Fitts field of Pontotoc County contributed seven new oil wells to the state's total, and another gusher in the Crescent area, Logan County, was given high potential rating. A total of 52 wells in the state were completed, including 36 oil wells, four gassers and 12 dry holes.

The big well at Crescent was Continental Oil Co. No. 5 McConnell, SE SW SE section 28-17-4w, which flowed 5,049 bbls. of oil in four hours, making potential of 27,048 bbls. daily. Production was from Wilcox sand at 5,995-6,070 feet. Earlier in the week, Mid-Continent Petroleum Corp. completed No. 5 Campbell, NE SW NE section 33-17-4w, for a potential of 5,260 bbls. daily.

Work was started at a wildcat that is of more than usual interest. It was the Ritz Oil & Gas Co. and Olson Oil Co. No. 1 State, NW NE SW section 16-29-2w, west of the Braman pool northwestern Kay County and about one-half mile south of the Kansas line. It is on a seismograph and core-drilled structure worked out by Shell Petroleum Corp., which farmed out an interest to the two operating companies. It is to be a Wilcox sand test.

As soon as weather is favorable, work was expected to start at a wildcat in Harmon County, extreme southwestern Oklahoma. It is the E. P. Kilgore No. 1 Cole, SW NW section 21-2n-26w, southwest of Hollis. Location is on a 5,000-acre spread, in a large Carter Oil Co. block which extends across the Texas state line to the west.

Another big well was near completion stage in the Jesse pool, Pontotoc County. Continental Oil Co. No. 1-A Thompson, SW NW SE section 2-1n-7, made potential of 3,420 bbls. of oil, with 5,000,000 feet of gas. It was bottomed at 4,541 feet.

Pontotoc County

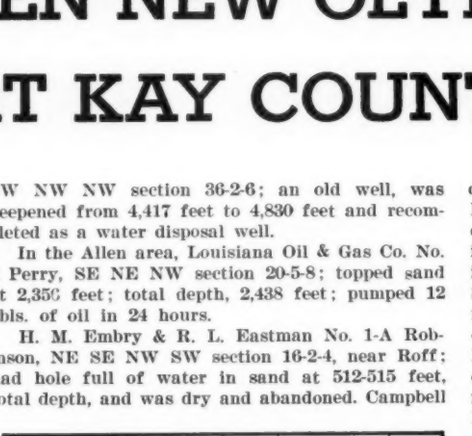
Seven new oil wells were completed in the Fitts field, Pontotoc County; one old well was deepened and recompleted; one well completed elsewhere in the county and two were abandoned.

Completions at Fitts: Sinclair Prairie Oil Co. No. 1 Moody A, NE NE SE section 22-2-7; Hunton lime, 3,642 feet; total depth, 3,777 feet; flowed 610 bbls. of oil in two hours, naturally; acidized; made potential of 3,382 bbls. Same company's No. 8 Woolley A, SE SW SW section 22-2-7; Hunton lime, 3,451 feet; total depth, 3,555 feet; acidized; flowed 793 bbls. of oil in two hours; potential 3,965 bbls. Magnolia Petroleum Co. No. 10 Burris B, SE SE NE section 28-2-7; Hunton lime, 3,260 feet; Sylvan shale, 3,562 feet; total depth, 3,564 feet; acidized; flowed 515 bbls. of oil in one hour, gross; potential, 3,532 bbls.

E. H. Moore and others No. 3 Burris, NE NW SE section 22-2-7; Hunton lime, 3,624 feet; Sylvan, 4,028 feet; total depth, 4,032 feet; acidized; potential, 4,186-bbls. of oil. J. E. Crosbie, Inc., No. 1 Burris, NE SW SE section 22-2-7; Viola lime, 4,203 feet; total depth, 4,340 feet; acidized; flowed 276 bbls. of oil in one hour, gross; potential, 1,069 bbls. Phillips Petroleum Co. No. 2 Bates, NW NE NW section 26-2-7; Hunton lime, 3,479 feet; total depth, 3,695 feet; acidized; flowed 358 bbls. of oil net in three hours; potential, 2,301 bbls. Mid-Continent Petroleum Corp. No. 4 McKoy, SW SE SW section 20-2-7; Viola lime, 4,050 feet; total depth, 4,333 feet; acidized; flowed 270 bbls. of oil net in two hours and 45 minutes; potential, 1,668 bbls. of oil. Burke-Greis Oil Co. No. 6 Chambers, SW NW NW section 36-2-6; an old well, was deepened from 4,417 feet to 4,830 feet and recompleted as a water disposal well.

In the Allen area, Louisiana Oil & Gas Co. No. 2 Perry, SE NE NW section 20-5-8; topped sand at 2,356 feet; total depth, 2,438 feet; pumped 12 bbls. of oil in 24 hours.

H. M. Embry & R. L. Eastman No. 1-A Robinson, NE SE NW SW section 16-2-4, near Roff; had hole full of water in sand at 512-515 feet, total depth, and was dry and abandoned. Campbell



Atlantic Refining Co. and associates have a new well on the south side of the Wofford pool, Seminole County, at No. 2 Thomas, NE NW SE section 8-6-7. It flowed 199 bbls. of oil in nine hours

& Hager No. 3 Malloy, NW SE NW section 30-2-4, had sand at 372-76 feet; total depth, 380 feet; failed to pump and was temporarily abandoned.

Several New Tests

New work in Pontotoc County included the following: Mid-Continent Petroleum Corp. No. 2 Statler, SE NE SW section 2-1n-7, cellar; J. B. Hagger No. 1 Bautsch, SW SW SE section 19-2n-4e, spudded and shut down; H. L. Blackstock No. 3 Lewis, SW SE SE section 19-2-7, moving in rotary; Amerada Petroleum Corp. No. 7 Woolley, NW NW SW section 22-2n-7, cellar; E. H. Moore and others No. 2 McCarty, NE SW NE section 22-2n-7e, cellar; same operator's No. 3 McCarty, NW SW NE section 22-2-7, location.

Aikman and Continental Oil Co. and others No. 1 A. Thompson, SW NW SE section 2-1n-7, was bottomed at 4,541 feet and flowed 700 bbls. of oil in five hours while running tubing, but had not been tested. Continental Oil Co. No. 4 McCarty, SE NE NW section 12-1n-7, was waiting on results after reacidizing at 4,754 feet, total depth; after first acid treatment it flowed 130 bbls. of oil in six hours. E. H. Moore and others No. 1-A Burris, SE NW SE section 22-2n-7, was waiting on results after acidizing at 4,014 feet, total depth; it flowed 219 bbls. of oil in two hours before acidizing. Sinclair Prairie Oil Co. No. 9 Woolley B, SW SE SW section 22-2n-7, was bottomed at 3,580 feet and after acid treatment flowed 903 bbls. of oil in two hours. J. Paul Getty No. 1 Masters, NW NE SW section 23-2n-7, flowed 263 bbls. of oil in one hour through tubing; total depth, 4,075 feet. Magnolia Petroleum Co. No. 27 Metropolitan Life, NE NW NE section 27-2n-7, flowed 591 bbls. of oil gross through tubing in one hour after acid treatment. Carter Oil Co. No. 10 G. Smith, NE NW SW section 28-2-7, was waiting on results after acidizing, at 3,546 feet, total depth. Skelly Oil Co. No. 17 Park College, SE SW NE section 28-2-7, was acidized with 10,000 gallons and waiting; total depth, 3,505 feet.

Estimated Daily Production

Estimated daily average production of Oklahoma for the week ending January 9, and for the preceding week, was as follows:

	Barrels	
	Jan. 9	Jan. 2
Allen	7,125	7,425
Burbank	7,500	7,950
South Burbank	14,800	15,500
Balance Osage	21,250	20,800
Blackwell district	5,025	5,300
Bristow-Slick	7,800	8,100
Chandler	3,525	3,500
Crescent	7,950	7,575
Cromwell	3,325	3,325
Cushing-Shamrock	10,300	10,250
Duncan district	3,950	3,950
Edmond	15,150	15,050
Fish	7,275	7,425
Fitts	69,250	77,150
Gray	1,425	1,350
Graham	4,800	5,000
Healdton	9,475	9,875
Hewitt	4,375	4,500
Holdenville	950	975
Keokuk	7,400	8,250
Konawa	1,725	1,700
Lucien	12,750	13,000
Marshall-Lovell	750	650
Oklahoma City	135,650	137,700
Olympic	12,275	13,200
Papoose	875	875
Polo	2,000	2,325
Sasakwa and townsite	3,025	2,925
Sholem-Alechem	3,250	3,300
Seminole:		
Bowlegs	10,725	12,000
Carr City	6,425	5,775
Earlsboro	6,150	6,250
South Earlsboro	750	700
East Earlsboro	8,450	8,725
Little River	11,000	11,825
East Little River	1,250	1,375
Maud	775	825
Mission	2,100	2,850
Seminole	8,825	9,750
East Seminole	4,125	3,975
Searight	4,825	4,925
Total Seminole	65,400	68,375
St. Louis-Pearson	22,300	22,275
Tatums	3,750	3,475
Tonkawa-Garber-Thomas	5,550	5,525
Wewoka	3,650	3,625
Yale-Jennings	4,100	3,950
Other pools	70,425	72,450
Total Oklahoma	560,125	579,900

Okfuskee County

Eleven Senora sand producers were completed in the Olympic district of southwestern Okfuskee County. Other completions in the county included a gas well and a failure.

Completed oil wells follow: J. A. Chapman No. 3 Bunner, SW NW SE section 25-10-8; Senora sand, 1,740 feet; total depth, 1,762 feet; shot; flowed 341 bbls. of oil in 24 hours. Mid-Continent Petroleum Corp. No. 1 Hale, SE SW NE section 25-10-8; Senora sand, 1,787 feet; total depth, 1,819 feet; plugged back to 1,800 feet; pumped 70 bbls. of oil and 120 bbls. of water in 24 hours. E. Evans No. 2 Smith, SE NE NW section 36-10-8; Senora

sand, 1,728 feet; total depth, 1,749 feet; flowed 800 bbls. of oil, accumulated, in 24 hours; later flowed 264 bbls. through tubing in 24 hours.

Chapman & McFarlin No. 1 Yarbrough, SW SE NE section 18-10-9; Senora sand, 1,862 feet; total depth, 1,924 feet; swabbed and flowed 154 bbls. of oil, with five bailers of water, in 24 hours; later, flowed 60 bbls. of oil in 24 hours through tubing. J. A. Chapman No. 2 Yarbrough, NW SE NE section 18-10-9; swabbed 78 bbls. of oil in 24 hours after a shot, producing from Senora sand at 1,843 feet; total depth, 1,902 feet. Ark Royalty Co. No. 3 Fisher, NW NE SE section 18-10-9; Senora sand, 1,865 feet; total depth, 1,912 feet; shot; flowed 43 bbls. of oil in 24 hours; later, swabbed as high as 172 bbls. in 24 hours. Hinckel & Delaney No. 1 School Land, NE cor. section 18-10-9; pumped 101 bbls. of oil and 10 bbls. of water, after shooting; Senora sand, 1,854 feet; total depth, 1,914 feet. J. J. Deaner No. 1 Schultz, SE SE NW section 18-10-9; Senora sand, 1,868 feet; total depth, 1,878 feet; shot; pumped 51 bbls. of oil in 13 hours.

J. J. Deaner No. 4 Deaner, SE SW NE section 19-10-9; had Senora sand at 1,743-1,806 feet; total depth, 1,811 feet; pumped and flowed 75 bbls. of oil in 24 hours. J. A. Chapman and Atlantic Refining Co. No. 4 Natchee, NW SW SE section 19-10-9; Senora sand, 1,721 feet; total depth, 1,806 feet; shot; pumped 2 bbls. of oil in 24 hours.

Mid-Continent Petroleum Corp. No. 1 Replogle, SW NE SE section 24-12-8, topped Hunton lime at 3,999 feet, was bottomed at 4,035 feet, and produced 8,000,000 feet of gas, completed.

J. A. Chapman No. 2 F. Williams, NW SW NW section 30-10-9, topped Senora sand at 1,735 feet; was bottomed at 1,782 feet; shot and flowed 847 bbls. of oil in 20 hours.

An Okfuskee Gasser

Mid-Continent Petroleum Corp. No. 1 Replogle, SW NE SE section 24-12-8, topped Hunton lime at 3,999 feet; total depth, 4,035 feet; produced 8,000,000 feet of gas and was completed.

J. A. Chapman and Atlantic Refining Co. No. 2 Natchee, SW NW SE section 19-10-9, topped Senora sand at 1,727 feet, but was dry and abandoned at 1,798 feet, total depth.

New operations in Okfuskee County included Earl Evans No. 3 Smith, NW NE NW section 36-10-8; set 10-inch casing at 44 feet, waiting on cement; Blackwell Oil & Gas Co. and Phillips Petroleum Co. No. 1 Lehmer, NW cor. section 17-10-9, cellar; Ark Royalty Co. No. 3 Parsons, NE SW NE section 18-10-9, set 10-inch casing at 41 feet, waiting on cement; same operators No. 4 Parsons, NW SW NE section 18-10-9, cellar; Chapman and McFarlin No. 1 Davis, SW NW NE section 18-10-9, drilling at 1,061 feet; same operator's No. 2 Davis, NW NW NE section 18-10-9, location; same operator's No. 1 Fitzpatrick, SE NW NE section 18-10-9, drilling at 120 feet; same operator's No. 2 Fitzpatrick, NE NW NE section 18-10-9, waiting on cement after setting 10-inch casing at 40 feet; J. J. Deaner No. 3 Schultz, NE SE NW section 18-10-9, set 10-inch casing at 42 feet, waiting on cement; same operator's No. 4 Schultz, SW SE NW section 18-10-9, waiting after setting 10-inch casing at 53 feet; Rogers Oil & Gas Co. and Ark Royalty Co. No. 2 Yarbrough, SE NE NE section 18-10-9, set 10-inch casing at 42 feet and waiting; same operator's No. 3 Yarbrough, NW NE NE section 18-10-9, set 10-inch casing at 45 feet.

Chapman & McFarlin were testing No. 3 K. Williams, SW SE SW section 25-10-8, after a 30-quart shot; it topped Senora sand at 1,740 feet and was bottomed at 1,747 feet. Stanolind Oil & Gas Co. No. 1 Bunner, SE SE NE section 25-10-8, topped Senora sand at 1,757 feet; total depth, 1,795 feet; shot with 50 quarts and flowed 830 bbls. of oil in 20 hours. Evans & Morris No. 2 Lively, NE SE NW section 36-10-8, had Senora sand at 1,734 feet, was bottomed at 1,745 feet, and was bailing.

Osage County

Three oil wells were completed in the South Burbank area of Osage County. Lewis Production No. 10 Calahan, NW SE SW section 23-26-6, had Burbank sand at 2,860-2,938 feet, total depth, and flowed 415 bbls. of oil in six hours while drilling. On test it flowed 253 bbls. in six hours, making potential of 864 bbls. Carter Oil Co.

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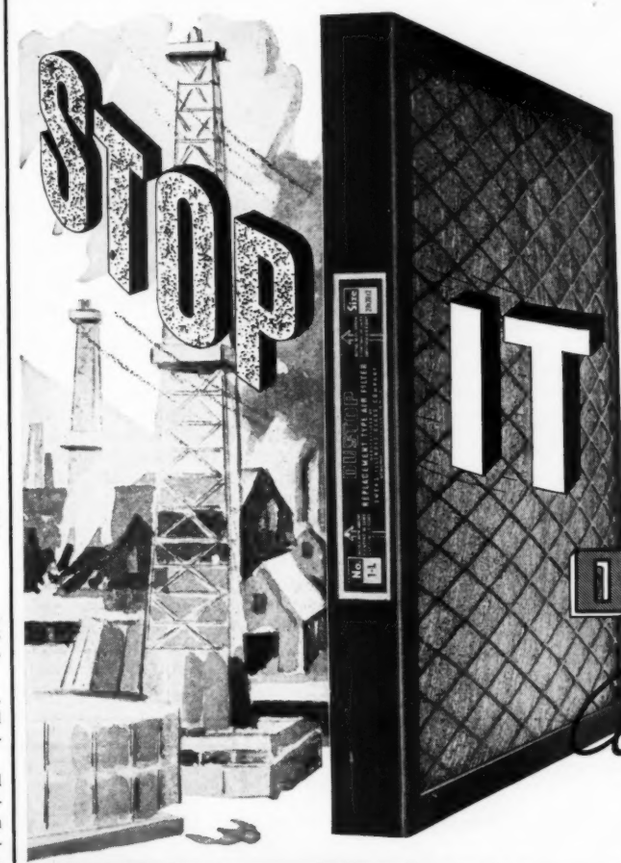

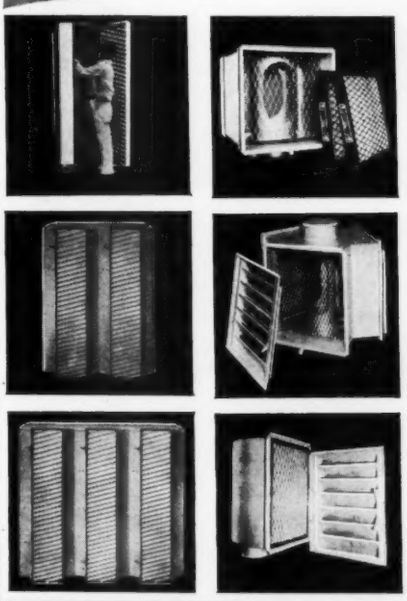

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and others No. 11 Eva Bean, NE SW NW section 15-25-6, topped Burbank sand at 2,812 feet; total depth, 2,859 feet; and was estimated as a 275-bbl. well. Kewanee Oil & Gas Co. No. 3 Alfred, SW SW NE section 26-26-6, flowed 124 bbls. of oil in six hours and made potential of 201 bbls. Production was from Bartlesville sand, topped at 2,840 feet; total depth, 2,890 feet.

Indian Territory Illuminating Oil Co. No. 443 Osage, NE SE SE section 36-26-9, east of Pawhuska, produced 2,345,000 feet of gas and was completed at 1,660 feet, total depth. Production was from Layton sand, topped at 1,026 feet, and Oswego lime, topped at 1,595 feet.

Ohio Osage Oil Co. and others No. 7 Osage, NE NE section 17-21-9, had sand at 277-297 feet, total depth, but was completed as a repressure well.

Everet Adams and others No. 6 Osage, SW NE SE section 5-22-11, an old well, was plugged back from 2,100 feet to 1,145 feet, failed to get production by shooting, and was dry and abandoned.

New work in Osage County: Harland Oil Co. No. 80 Osage, SE NW NW section 25-24-11, location; Ray Branstetter & Bay Oil Corp. No. 4 Osage, SW SE SW section 28-22-11, location; Galt Brown Co. and others No. 3 Osage, NW SW NE section 14-24-8, location; Utilities Production Corp. No. 24 Osage, NW NE SW section 1-27-7, an old well, deepened from 1,523 feet to 2,100 feet, lowering 8-inch casing.

Pure Oil Co. and others No. 147 Osage, SW SE NE section 5-23-8, an old well deepened from 1,308 feet to 2,118 feet, was acidized with 5,000 gallons and flowed 500 bbls. of oil in the first 24 hours, and on successive 24-hour gauges flowed 427 bbls., 505 bbls., 431 bbls., 350 bbls., and 370 bbls. of oil, with no water. It was not completed. George W. Tselos No. 5 Osage, NW SE NW section 5-23-11, had Bartlesville sand at 1,622-1,705 feet, total depth, and was estimated as a 15-bbl. pumper.

Hughes County

Two small producers were completed in the Hughes County sector of the Olympic field, and a gas well was completed elsewhere in the county. Sinclair Prairie Oil Co. No. 5 Kirby, NE SW NE section 11-9-8, topped Senora sand at 1,786 feet; total depth, 1,813 feet; shot; swabbed 5 bbls. of oil and 45 bbls. of water in 24 hours. Amerada Petroleum Corp. and Stanolind Oil & Gas Co. No. 2 Mann, NW SW NW section 6-9-9, had Senora sand at 1,661-1,707 feet; was bottomed at 1,709 feet, with water in the hole; plugged back to 1,706 feet, shot and pumped 19 bbls. of oil in 10 hours, later pumping off.

McGee No. 3 Turner-Lewis, SW cor. section 1-9-10, had sand at 1,185-95 feet; total depth, 1,200 feet; shot and produced 1,000,000 feet of gas, completed.

Buell & Herndon No. 3 Turner, SE NW section 28-9-10, was an abandoned location.

Seminole County

Completions in Seminole County were as follows: Atlantic Refining Co. No. 2 Thomas, NE NW SE section 8-6-7; Wilcox sand, 3,952 feet; total depth, 3,959 feet; flowed 199 bbls. of oil through casing in nine hours. It is on the south edge of the Wofford pool, offsetting a dry hole. E. W. Jones and others No. 1-A Berry, SW NW NW section 2-8-5, swabbed and flowed 1,599 bbls. of oil in 48 hours after acidizing with 2,000 gallons, producing from Dolomite, topped at 4,132 feet; total depth, 4,165 feet. Rogers Oil & Gas Co. No. 2 Bryant, NE NW SW section 16-9-7; Cromwell sand, 3,414 feet; total depth, 3,429 feet; flowed 145 bbls. of oil in 24 hours. Sinclair Prairie Oil Co. No. 2 Weimer, NE cor. section 22-10-6, flowed and swabbed 300 bbls. of oil in 24 hours from Misener sand at 4,242 feet; total depth, 4,258 feet.

Wofford Brothers No. 1-A Norvel, SE NE SE section 26-6-7, topped Dolomite at 4,135 feet, and was abandoned at 4,160 feet, total depth, in Dolomite. Oklahoma Oil Corp. No. 2-A Carter, C S half NE SE section 23-9-6, had a hole full of water and was abandoned at 2,439 feet, total depth. Prunty Drilling Co. No. 3 Boring, NE NE SE section 17-9-7, was bottomed at 3,473 feet, with water in the hole; failed to get a shut off by plugging back to 3,436 feet, and was abandoned.

Empire Oil & Refining Co. No. 3 Myers, SW NE NE section 31-7-8, an old well, was plugged back from 4,251 feet to 3,183 feet, shot and acidized, and pumped 475 bbls. of oil and 10 bbls. of water in 24 hours, recompleted. Vierson and others No. 1 Long, NE NW SE section 32-8-8, an old well, was deepened from 3,192 feet to 3,248 feet, had a fishing job and was abandoned.

New operations in Seminole County were as follows: Reynolds Drilling Co. and Oklahoma Oil Corp. No. 2 Fleet, NE NW SE section 13-6-7, an old well being deepened, was drilling at 2,235 feet; M. Van Deventer No. 1-B Benden, NE NE SW section 3-8-8, an old well, was rigging up standard tools to deepen; Vierson Oil & Gas Co. No. 1-A Long, section 32-8-8, rig; Rogers Oil & Gas Co. No. 1 Stubbs, NW NE SW section 16-9-7, location.

Garvin County

Two new oil wells were completed in the Garvin County sector of the Tussy area. Winkler & McQueen No. 1 William Perkins, NW NW SE section 32-1n-3w, had first productive sand at 2,140 feet; total depth, 2,294 feet; and flowed 178 bbls. of oil in 24 hours. Cox & Hamon No. 6 Davis, NW SW SE section 32-1n-3w, pumped 120 bbls. of oil in 24 hours and was completed at 2,654 feet, total depth. Productive sand was topped at 1,820 feet.

Cox & Hamon No. 2 Davis, SW NE SE section 32-1n-3w, was drilling in shale and broken sand at 1,420 feet. Winkler & McQueen No. 2 Perkins, NE NW SE section 32-1n-3w, was building derrick.

Pottawatomie County

Gulf Oil Corp. and others No. 1 Benjamin, NE SE NW section 13-7-4, St. Louis district, was the only new Pottawatomie County well. It topped Wilcox sand at 4,141 feet, was bottomed at 4,156 feet, and swabbed 2,472 bbls. of oil in 48 hours with 10 bbls. of water.

Hilton Phillips No. 1 Bradshaw, SW SW SE

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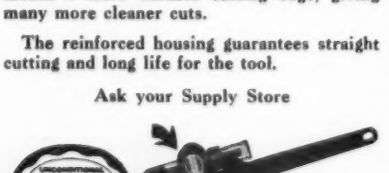

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section 21-7-4, an old well, was plugged back from 4,164 feet to 3,550 feet, and was abandoned.

Atlantic Refining Co. and Darby Petroleum Corp. No. 1 Standridge, SE SW SW section 10-7-4, an old well, was plugged back from 4,015 feet to 2,580 feet, shot and production was estimated at 5,000,000 feet of gas and 10 bbls. of oil daily, but it was not completed.

Gulf Oil Corp. and others No. 2 Benjamin, SE NE NW section 13-7-4, and same operator's No. 2 Wise, SW NW NE section 13-7-4, were locations. Hilton Phillips No. 1-A Bradshaw, SW SW NE section 21-7-4, was a rig.

Oklahoma County

The only well completed in Oklahoma County was Ohio Oil Co. No. 2 McMillan, NE NW SW section 31-14-3w, Edmond field. It topped second Wilcox sand at 6,660 feet; total depth, 6,700 feet; flowed 903 bbls. of oil in four hours and made potential of 5,416 bbls.

Anderson-Prichard Oil Corp. No. 1 Levy, NE NE NW section 22-12-3w, an old well in the Oklahoma City field, was rigging up rotary to deepen from 5,705 feet.

Logan County

Mid-Continent Petroleum Corp. No. 5 Campbell, NE SW NE section 33-17-4w, Crescent field, Logan County, flowed 909 bbls. of oil in four hours and made potential of 5,260 bbls., completed. Top of first Wilcox sand was 6,162 feet, and production was from soft sand at 6,238-55 feet; total depth, 6,288 feet.

Champlin Oil & Refining Co. was building rig for No. 2 Pfeiffer, C N half N half NW section 4-19-2w.

Creek County

Sinclair Prairie Oil Co. No. 6 B. B. Jones, SW SE NW section 4-17-7, Cushing field, Creek County, an old well, was shot, pumped 45 bbls. of oil in 24 hours and was recompleted.

New work in Creek County: L. B. Jackson No. 3 Whitehead, SE SE NE section 35-18-8, location; Big Four Petroleum Co. No. 1 Simon, NE NW NW section 30-17-8, rigging up machine; R. F. Harmon No. 1-A Bryden, NE NW NE section 17-14-8, location; J. E. Crosbie and Sinclair Prairie Oil Co. No. 1 Bailey, NE NW NW section 28-15-7, building rig.

Lincoln County

Magnolia Petroleum Co. No. 8 Wagoner, NE SW SE section 2-14-3e, Chandler area, Lincoln County, topped Skinner sand at 4,176 feet; total depth, 4,219 feet; shot and swabbed 90 bbls. of oil in 16 hours, completed.

Anderson-Prichard Oil Corp. No. 1 Colon, C N half SE SW section 28-17-4e, wildcat northwest of Agra, was a rig. Magnolia Petroleum Co. No. 9 Ross, NW SW SE section 2-14-3, was a location.

Garfield County

Ohio Oil Co. No. 1 McFarland, SE cor. section 25-24-3w, wildcat in northeastern Garfield County and northwest of the Billings field in Noble County, topped Arbuckle lime at 5,237 feet and was dry and abandoned at 5,242 feet, total depth. Simpson Dense was topped at 4,895 feet; Dolomite, 4,908 feet; Wilcox sand, 4,940 feet; second Wilcox, 5,008 feet; Tyner, 5,060 feet.

Pawnee County

Wood Oil Co. No. 1 T. Davis, C N half N half NE section 36-20-7, new test in Pawnee County, was drilling at 565 feet. Tuttle Oil & Gas Co. No. 1 Hogan, NE NW SW section 36-20-7, had Layton sand at 1,585-1,638 feet, and was drilling at 1,770 feet.

Kay County

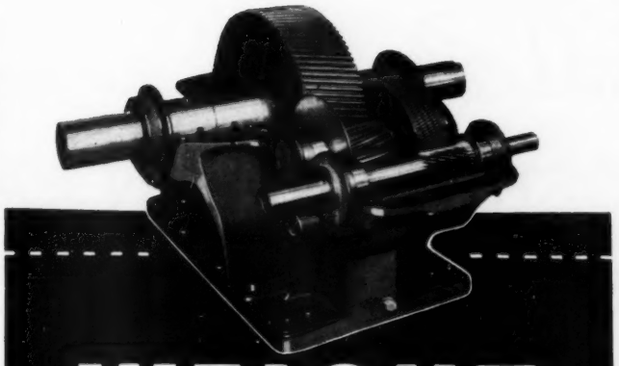
Ritz Oil & Gas Co. had rig on ground for No. 1 State, NW NE SW section 16-29-2w, wildcat in the northwestern corner of Kay County, near the Kansas border.

Carter County

Completions in Carter County included one small pumper and two failures. Roy M. Johnson No. 17 Davis, NW NE SW section 6-4s-3w, Healdton field, topped oil sand at 1,083 feet; total depth, 1,119 feet, and pumped 30 bbls. of oil in 24 hours.

Mudge Oil Co. No. 1 Lundy, NW NE SW SE section 19-1s-2w, was dry and abandoned at 1,900

(Continued on Page 89)



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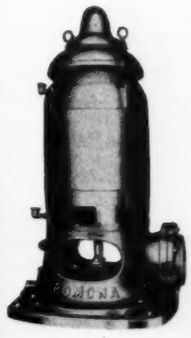

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Eastern Field Report

By STAFF CORRESPONDENT

DEEP TESTS IN EASTERN FIELD REACH INTERESTING LEVELS

PITTSBURGH, Pa., Jan. 11.—Twenty-six operations were completed in the lower Eastern field. Five were dry holes, 15 gas wells, and six producers with an initial daily production of only 32 bbls. Several deep tests have reached interesting levels.

SOUTHEAST OHIO

The deep test of Ray Miller and others on the George M. Eells farm, section 10, Madison Township, Columbiana County, southeast Ohio, is drilling 203 feet in the Corniferous lime and should reach the Oriskany sand this week unless shut down to run pipe before drilling in. It is 3 miles northeast of the Oriskany gas well on the Margaret Jenkins farm, section 28, same township. The top of the lime was at 4,128 feet.

In Athens County M. C. Leeper completed a test on the C. Ginn farm in the southeast quarter of section 35, Rome Township, in the Berea sand at 1,420 feet, gauging 250,000 feet. In the central part of section 13, Ames Township, Carpenter and Glazier drilled No. 16 John Smith through the First Cow Run sand at 315 feet. It was dry.

In Coshocton County Perkins and Upham drilled a test on the William Ringwalt farm, Lot 16, New Castle Township, through the Clinton sand to 3,290 feet. It had a very small showing of oil, not enough to shoot.

In Licking County Rutledge and Mossholder Oil & Gas Co. completed No. 6 William E. Teagarden, section 15, Perry Township, in the Berea sand at 628 feet. It produced 14 bbls. the first day after shot and will make a 3-bbl. pumper. In section 6, Perry Township, Stricker and Armbuster completed No. 5 G. S. Patton in the Berea sand at 635 feet. It produced 10 bbls. the first day after shot.

In Lorain County Wittmer Co. completed a test on the H. W. Ingersoll farm in Lot 84, Grafton Township, in the Clinton sand at 2,633 feet, gauging 725,000 feet.

In Meigs County C. J. Duckworth and others completed a test on the Ira Bartels farm in the north part of Lot 292, Sutton Township, in the Cow Run sand at 530 feet, gauging 25,000 feet.

In Noble County Way Wickens and others drilled a test on the Oscar Ogle farm in the north half of section 23, Olive Township, through the Berea Grit to 1,417 feet. There was no showing of oil or gas.

The test of Harold C. Phillips and others on the Richard and Bell Fenton farm in Poland Township, Mahoning County, scheduled for the Oriskany sand, is drilling and placed the Berea sand at 565-600 feet and the Salt sand at 640-680 feet. It is about 1 mile north of Lowellsville and 1 mile east of the Pennsylvania state line east of Youngstown.

SOUTHWEST PENNSYLVANIA

One well was completed in Southwest Pennsylvania. In North Franklin Township, Washington County, Harry Risher completed a test on the John Eagleson farm in the Fifth sand at 2,829 feet good for 4 bbls. a day.

In Center Township, Greene County, Penn Ohio Oil and Gas Co. test on the William L. Funk farm, scheduled for the Nineveh Thirty-foot sand, shut down on the Fifty-foot sand on account of a gas flow. Top of the sand was at 2,940 feet with about 500,000 feet of gas at 2,941 feet.

Deep Tests

Progress was made in the deep test of William Snee and others on the Summit Hotel property in South Union Township, Fayette County. The tools reached 5,365 feet in the new hole, the previous bottom having been 5,250 feet. The tools were out of the hole to spray the walls with the new cement spray bailer.

In Mount Pleasant Township, Washington County, the bit lost in the test of Norwood Johnston and others on the James McBurney farm has not been recovered and it may have to be cemented in.

The Oriskany test of Carnegie Natural Gas Co. on the Heichel farm in Slippery Rock Township, Lawrence County, which has about 56,000 feet of gas after shot, is being abandoned.

WEST VIRGINIA

The greatest interest in the West Virginia fields continues in the Oriskany tests and the Oriskany field. In Burning Springs district, Wirt County, the test of Glen Roberts and others on the Roberts Oil Co. land on the Burning Springs anticline topped the Corniferous lime at 4,651 feet. The elevation of the mouth is 837 feet. The test was shut down at 4,660 feet to run pipe. This is the most important test nearing the Oriskany sand in West Virginia and is in the heart of an early very prolific pool in shallower sands.

Depths of other wells scheduled for the deeper sands and outside of proven area follow: Burning Springs, Wirt County, Godfrey L. Cabot, Inc., on the Julia Blankenship farm east of Creston, shut down at 2,472 feet; on the Walter Hoffman farm, same district, shut down at 3,300 feet and on the G. L. Cabot farm at 2,036 feet. In Geary district, Roane County, this operator is fishing the bailer in the deep test on the T. F. Smith farm at 5,607 feet, or about 200 feet above the lime.

Oriskany Field

In the Campbells Creek pool in Malden district, Godfrey L. Cabot, Inc., completed No. 9 William Tompkins in the Oriskany sand at 5,119 feet, gauging 650,000 feet. No other deep tests were completed but several new locations were made.

Other Completions

No oil wells were completed in West Virginia. In Boone County United Fuel Gas Co. completed No. 4642 Mohler Lumber Co. in Scott district at a total depth of 4,353 feet as a gas well. Big lime was at 1,370-1,579 feet; Big Injun 1,584-1,620 feet; Berea 2,065-83 feet; Brown shale 2,083-4,353 feet with gas at 2,759-3,382 feet. Berea gas gauged 104,000 feet and Shale gas 168,000 feet. In Sherman district Pure Oil Co. drilled No. 86 Federal Coal Co. through the Salt sand to 1,088 feet and was dry.

In Cabell County United Fuel Gas Co. completed No. 4684 Hily Cremeans in McComas district at 3,403 feet as a gas well. Big lime was at 1,500-1,675 feet; Big Injun 1,732-1,812 feet; Berea 2,305-18 feet; Brown Shale 3,060-3,393 feet and 232,000 feet of gas at 2,980 feet. In this district Kentucky West Virginia Gas Co. collapsed the casing on the R. L. McAllister farm in McComas district during the shot and it was plugged.

In Center district, Gilmer County, Fell D. Phillips completed No. 2 Belinda Felly in the Injun sand at 1,936 feet, gauging 260,000 feet. In Troy district Pittsburgh and West Virginia Gas Co. completed a test on the Riddle Heirs farm in the Gantz sand at 2,238 feet, gauging 150,000 feet.

In Gilmer County there were several completions. In DeKalb district Friendly Oil Co. completed No. 2 H. C. Stalnaker in the Maxon sand at total depth of 1,690 feet. Top of the sand was at 1,679 feet with 468,000 feet of gas at 1,685-90 feet. In Glenville district Massey and Jarvis completed the test on the J. W. Myles farm with a total depth of 1,707 feet in the Injun sand gauging 67,000 feet. Big Injun was at 1,657-1,707 feet and the gas at 1,660 feet.

In Harrison County Lumberport-Shinnston Gas Co. completed No. 4 John M. Boggess in Eagle district in the Fifth sand at 2,507 feet, gauging 213,000 feet.

In Kanawha County Pure Oil Co. completed No. 3 Cheylan Coal & Land Co. in Cabin Creek district at 3,010 feet as a gas well. Big lime was at 2,326-2,524 feet; Big Injun 2,524-65 feet; Berea 2,945-91 feet and gas in that formation gauged 576,520 feet.

In Lincoln County United Fuel Gas Co. completed No. 4698 Horse Creek Land & Mining Co. in Duvall district at 4,282 feet. Big Lime was at 1,482-1,681 feet; Big Injun 1,681-1,716 feet; Berea 2,165-93 feet with 116,000 feet of gas at 2,170-76 feet; Brown shale 3,335-4,282 feet with 278,000 feet of gas at 3,335-3,520 feet.

In Monongalia County Dunn Mar Oil & Gas Co. completed No. 3 Nimrod Tennant in Clay district in the Fifth sand at 2,873 feet, gauging about 150,000 feet.

In Ritchie County J. F. Deem drilled a second test on the McGregor Heirs farm in Murphy district through the Maxon sand to 2,040 feet and it was dry.

In Wetzel County Hope Natural Gas Co. completed No. 7739 James M. Allen in Grant district at 2,289 feet. Pittsburgh Coal was at 914 feet; Big Injun sand 2,200 feet and 1,800,000 feet of gas at 2,285 feet.

New Work

In Cabell County West Virginia Gas Corp. has a location on the H. S. and Bertha Nida farm in McComas district. Lusher and Lusher are moving on the Nellie B. Morrison farm on Middle Fork of Merrits Creek, same district. W. C. Kingery is drilling on the C. L. Ritter farm on Fourpole Creek in Guyandotte district.

In Gilmer County Pittsburgh and West Virginia Gas Co. has a location on the Mary E. Snyder farm in Glenville district. Carnegie Natural Gas Co. has locations for No. 3, 4 and 5 on the Despard Heirs farm in Glenville district.

In Lincoln County Black and Pridemore Gas Co. has a location on the W. H. Meadows farm on Sulphur Spring Branch in Duvall district. In Sheridan district Martin Gas Co. is starting to deepen No. 1 Black and Yeager farm, on Upper Two Mile Creek.

In Marion County South Penn Oil Co. has a location on the C. A. Pritchard farm in Lincoln district. In Marshall County Greenfield Oil & Gas Co. has a location for No. 3 H. B. Mason on Valley Run. In Mingon County Huntington Oklahoma Gas Co. is drilling No. 5 Floyd Brewer on Marrowbone Creek in Kermit district.

In Pleasants County C. L. Barron has a location for No. 7 J. H. Roberts in Grant district. In Jefferson district, D. E. McClure and others have started drilling on the J. T. Newland farm on Bull Run.

In Wetzel County George F. Eagan has a location on the J. E. Huff farm in Proctor district. In Wirt County Oil City Trust Co. has a rig for No. 8 P. G. Marks in Spring Creek district. In Wood County Albert Congdon and others are drilling No. 6 George Grant Heirs in Walker district.

Kansas Developments

By
DAL DALRYMPLE

SEVEN WILDCATS AMONG 53 NEW OPERATIONS IN KANSAS

Oil operations in the Kansas fields were off to a fast start the past week, giving first justification of the prediction that drilling activity in 1937 will surpass that of 1936 and set a new high record for the Sunflower state. The 44 completions of the week were more than offset by first reports of 53 new operations just getting under way.

Seven of the new tests were wildcats. Two of these were in Russell County, with one each in Barton, Ellsworth, Rice, Rooks, and Stafford counties. Of the other 46 new operations, 13 were in Russell County, 10 in Rice County and nine in Barton County. Other new tests were in Trego, Ellis, McPherson, Coffey, Woodson, Harvey, Reno, Butler, Greenwood, Cowley, Chautauqua and Stevens counties.

A feature of Kansas oil news was completion of the previously reported business deal by which L. E. Douglass, Hutchinson producer, sold the bulk of his property in Township 21, Range 7 west, Rice County, to Atlantic Refining Co. for $800,000, of which $200,000 was reported to be in cash, with the remainder to be paid at the rate of $100,000 a year for the next six years. The Atlantic company acquired three producing wells, one drilling well, 680 acres of leases and $50,000 worth of equipment in the Hauschild-Saxman-Theede district. Mr. Douglas retained a part of his Hauschild acreage on which are three producing wells. R. W. Sage, C. G. Yankey, Sam Schneider and J. O. O'Sullivan, who have been associated with Mr. Douglass in some of his Rice County operations, did not sell their interests.

The week's completions included a 3,700-bbl. well in the Warkentine pool of Harvey County, and a wildcat that opened a new producing area north of the Reece pool, Greenwood County. The newest Warkentine well was Western Kansas Oil & Refining Co. and others No. 1 Denno, C NW SW section 12-23-2w, which flowed 1,025 bbls. of oil in six hours from Chat, making potential of 3,730 bbls.

The Schoenfeld & Kitch No. 1 Winget, SE cor. section 15-16-16w, wildcat that is looking like a pool opener in Rush County, set 8-inch casing at 3,245 feet and was bottomed at 3,247 feet. It had 1,800 feet of oil in the hole.

Rice County

Eight new oil wells were completed in Rice County and two old wells were deepened and recompleted. Completions were as follows:

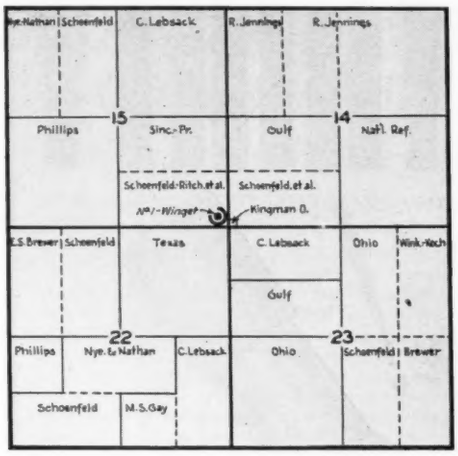
Gulf Oil Corp. No. 4 Stoltz, Jr., NW cor. section 5-20-10w, Silica district; topped Siliceous lime at 3,273 feet; total depth, 3,287 feet; swabbed 173 bbls. of oil in six hours; acidized; pumped 856 bbls. in 13 hours, making potential of 1,628 bbls. Stanolind Oil & Gas Co. No. 9 Specht, NW SW NE section 6-20-10w; Siliceous, 3,293 feet; total depth, 3,312 feet; swabbed 41 bbls. per hour for three hours; acidized; potential, 2,450 bbls. Rose Spring Drilling Co. and others No. 1 Mantel, SW SE NE section 18-20-10w; Siliceous, 3,278 feet; total depth, 3,299½ feet; pumped 418 bbls. of oil in 24 hours.

Jack Robertson No. 1 Smith, SE SE SW section 32-19-9w, Chase area; Siliceous, 3,197 feet; pay at 3,225-26 feet, total depth; pumped 160 bbls. of oil; acidized; potential, 833 bbls.

Phillips Petroleum Co. and Indian Territory Illuminating Oil Co. No. 13 Krampe, SE cor. section 31-19-10w, Silica area; Siliceous, 3,282 feet; total depth, 3,285 feet; potential, 1,709 bbls. Bradley Oil Co. No. 2 Mitchell, SW cor. section 32-19-10w, flowed 784 bbls. of oil in 16 hours; acidized and made potential of 1,678 bbls., producing from Siliceous lime topped at 3,289 feet; total depth, 3,293 feet. Texas Co. and others No. 3 Schartz, SW SE SE section 33-19-10w; Siliceous, 3,299 feet; total depth, 3,311 feet; potential, 2,472 bbls.

L. E. Douglass No. 1 Mills, NW cor. section 8-21-7w, Saxman-Hauschild district, pumped 129 bbls. of oil in six hours, making potential of 489 bbls.

Torry & Feaster No. 1 Rose, NW NW SE section 32-19-9w, an old well, was deepened from



Schoenfield & Kitch No. 1 Winget, SE cor. section 15-16-16w, wildcat, was looking like a new pool opener in Rush County

3,230 feet to 3,256 feet and made potential of 1,051 bbls. of oil.

Permian Oil Co. No. 1 Wilkey, C NE NE section 9-20-7w, an old well, was deepened, topped Siliceous lime at 3,553 feet, had a hole full of water and was abandoned at 3,566 feet.

New work in Rice County: Empire Oil & Refining Co. No. 1 Bantterton, SW SW SE section 11-18-8w, wildcat, building rotary rig: Torry & Feaster and others No. 2 Lisk, SE NE SW section 32-19-9w, location; Gulf Oil Corp. No. 7 Stolz, NW SE NW section 32-19-10w, building rotary rig; same operators' No. 8 Stolz, NE SW NW section 32-19-10w, rigging up rotary; Ohio Oil Co. No. 1 Wood, NW NE NW section 3-20-10w, location; Gulf Oil Corp. No. 6 Stolz, Jr., NE SW NW section 5-20-10w, set 10-inch casing at 152 feet, waiting on cement at 158 feet; same company's No. 7 Stolz, Jr., NE NW NW section 5-20-10w, building rotary rig; same company's No. 1 Hirsch, SE SW NE section 18-20-10w, building rotary rig: Derby Oil Co. No. 1 Thode, NE SE SE section 8-21-7w, building rotary rig; same operator's No. 8 Thode, SE cor. section 8-21-7w, building rotary rig.

Russell County

Seven completions in Russell County included four oil wells in the Trapp district. Largest of these was Coralena Oil Co. No. 12 Trapp, NW NE SE section 30-15-13w. It had Siliceous lime at 3,254-59 feet, total depth, acidized and made potential of 2,586 bbls. of oil.

W. I. Southern, Inc., No. 4 Sellens Heirs A, NE NE SW section 30-15-13w, made potential of 2,554 bbls. of oil after acid treatment. It had Siliceous lime at 3,261-65 feet, total depth. Same operator's No. 4 Boomhower A, SW SW NE section 30-15-13w, had Siliceous lime at 3,249-53 feet, total depth, and after acidizing made potential of 2,356 bbls. Same operator's No. 2 Boomhower A, SW SE NE section 30-15-13w, was acidized and made potential of 2,038 bbls. of oil. Top of Siliceous lime was 3,245 feet; total depth, 3,248 feet.

Other Russell County completions: Skelly Oil Co. No. 2 Henry Boxberger, NE NW NE section 33-13-14w; topped Siliceous lime, 3,274 feet; total depth, 3,292 feet; acidized; potential, 1,598 bbls. Empire Oil & Refining Co. No. 11 Crawford, SE NE SW section 2-14-15w; Gorham sand, 3,304 feet; pay, 3,306-09 feet, total depth; potential, 1,488 bbls. of oil, with 75 bbls. of water. Beardmore and others No. 3 Karst, C S half S half NE section 27-15-14w; Siliceous lime, 3,365 feet; total depth, 3,372 feet; potential, 374 bbls. of oil.

The following new operations were reported in Russell County: Smoky Hill Oil Corp. No. 9 E. Miller, NW SW SW section 30-14-13w, moving in material; same company's No. 2 L. Miller, NW cor. section 31-14-13w, rig; same company's No. 5 Miller, SW NW NE section 31-14-13w, drilling at 760 feet; Stearns & Streeter No. 3 Miller, SE NE NW section 31-14-13w, building rotary rig; Empire Oil & Refining Co. No. 1 Vaughn, SW cor. section 17-14-14w, wildcat, location; Gulf Oil Corp. No. 6 Ehrlich, SE SE SW section 1-14-15w, cellar; Texas Co. No. 6 Anschutz, NE NE SW section 1-14-15w, cellar; A. H. Witt No. 2 Witt, NE NW SE section 3-14-15w, ponds; Bridgeport Machine Co. No. 3 Dortland, C NE section 8-14-15w, drilling at 90 feet; Hartman & Blair No. 4 Harbauh, SE SE SW section 25-14-15w, old well, deepened from 3,177 feet to 3,179½ feet, shot and waiting; Phillips Petroleum Co. No. 3 Hoffman, NE NW SE section 31-15-13w, moving in material; Empire Oil & Refining Co. No. 1 Michaelis, C N half N half SE section 27-15-14w, location; Getty, Inc., No. 1 Baxter, SE SE NE section 8-15-15w, wildcat, drilling at 200 feet.

Estimated Daily Production

Estimated daily average production of Kansas for the week ending January 9, and for the preceding week, was as follows:

	Barrels	
	Jan. 9	Jan. 2
Oxford City	3,200	3,200
Burrton	14,025	14,100
Ritz-Canton	6,275	6,300
Hollow-Nikkel	3,575	3,600
Voshell	2,800	2,775
Ellsworth:		
Lorraine-South Lorraine	4,125	3,325
Other pools	1,490	995
Rice-Barton Counties:		
Bloomer	1,025	2,215
Chase	7,650	6,970
Geneseo	1,870	1,245
Raymond	1,795	2,210
Silica	6,630	12,055
Keesling	1,185	1,785
Hauschild	2,180	3,260
Miscellaneous Rice	4,885	4,310
Miscellaneous Barton	3,245	3,330
Russell County:		
Fairport	2,975	2,220
Gorham-E. Gorham	6,305	6,635
Russell	2,170	3,885
Sullivan	3,705	4,530
Trapp	2,405	4,225
Miscellaneous Russell	6,295	5,480
Sedgwick County:		
Valley Center	1,330	1,295
Greenwich	1,250	1,200
Robbins	1,200	1,185
Miscellaneous Sedgwick	1,205	1,162
Ellis County	4,185	5,288
Kingman County	650	655
Stafford County	1,635	2,780
Greenwood County	9,750	9,750
Butler County	17,150	17,200
Other fields	28,060	26,688
Total Kansas	156,225	165,850

Reno County

Haynes Drilling Co. and others No. 2 Mueller, NE NE NW section 30-24-4w, was the largest of two oil wells completed in Reno County. It topped

Chat at 3,338 feet, was bottomed at 3,384 feet, acidized and pumped and flowed 594 bbls. of oil, with 8 per cent water, in 24 hours.

Shell Petroleum Corp. No. 5 Hoskinson A, C SW NE section 9-24-4w, topped Chat at 3,293 feet; total depth, 3,380 feet. It flowed 126 bbls. of oil and 63 bbls. of water in 24 hours; acidized, and made potential of 229 bbls. of oil, with 65 bbls. of water.

Empire Oil & Refining Co. No. 1 Schrock, NW NW SE section 22-24-5w, wildcat north of Yoder, topped Kansas City lime at 2,678 feet; Chat, 3,390 feet; had 2,500 feet of water in the hole at 3,500 feet, total depth, and was dry and abandoned.

Westgate-Greenland Oil Co. No. 1 Fossey, SW SW SE section 12-22-8w, wildcat in northern Reno County and southwest of the Hauschild-Saxman area in Rice County, had increasing water in Siliceous lime at 4,000-4,026 feet, total depth, and was dry and abandoned. It topped Chat at 3,566 feet; Kansas City lime, 3,062 feet; based Mississippi at 3,650 feet; topped Misener, 3,880 feet; Viola lime, 3,895 feet; Simpson, 3,916 feet.

First reports of new work in Reno County: Empire Oil & Refining Co. and others No. 1 Haury B, SW cor. section 1-23-4w, an old well, preparing to plug back; Indian Territory Illuminating Oil Co. No. 1 Mueller, NW NW NE section 30-24-4w, moving in material.

Kingman County

Skelly Oil Co. completed No. 6 F. C. Miller, SW SW NE section 30-27-10w, Cunningham pool, Kingman County, at 3,452 feet, total depth. After acid treatment, it made potential of 150 bbls. of oil in 24 hours. Production was from Kansas City lime, topped at 3,393 feet.

Trego County

The only completion in Trego County was Watchorn Oil & Gas Co. No. 1 Lenke, C SE SW section 15-11-23w, Wakeeney area. It topped anhydrite at 1,725 feet; Kansas City lime, producing horizon, at 3,494 feet, and was bottomed at 3,503 feet. It swabbed 224 bbls. of oil in nine hours and made potential of 656 feet.

Watchorn Oil & Gas Co. No. 1 Galloway, C SE NE section 16-11-23w, Trego County, was a cellar.

Barton County

Empire Oil & Refining Co. No. 3 Rader, SW NW NW section 12-19-11w, Barton County, topped Siliceous lime at 3,346 feet and was completed at 3,386 feet, total depth. After acidizing and shooting, it pumped 160 bbls. of oil and 154 bbls. of water in 24 hours, but on completion test made potential of 32 bbls. of oil, with 81 bbls. of water.

Stanolind Oil & Gas Co. No. 1 Brack, SW cor. section 21-18-15w, Albert district, had sand at 3,456 feet, was bottomed at 3,522 feet, produced 18,500,000 feet of gas and was completed.

New work in Barton County: Indian Territory Illuminating Oil Co. No. 1 Hogan, NW NW SW section 34-16-13w, cellar; Republic Natural Gas Co. No. 4 McLean, SW NE SE section 25-17-11w, rigging up rotary; Texas Co. No. 1 McLean, SW SW NE section 25-17-11w, cellar; Skelly Oil Co. No. 7 Bloomer, SE SE NE section 36-17-11w, rigging up rotary; same operator's No. 8 Bloomer, NE SE NE section 36-17-11w, rotary rig; Harris & Haun and others No. 2 Haas, NW NW SW section 30-18-15w, moving in material; Morgan & Flynn and others No. 1 Arnold, NW cor. section 30-18-15w, set 15-inch casing at 200 feet and waiting on cement at 210 feet; Stanolind Oil & Gas Co. No. 2 Burmeister, NE NE SW section 33-19-11w, wildcat, location; Lario Oil & Refining Co. and Indian Territory Illuminating Oil Co. No. 4 Meyer A, SE SE SW section 13-20-11w, set 10-inch casing at 160 feet, waiting on cement.

McPherson County

Continental Oil Co. No. 2 Blair, NW SW SW section 21-21-1w, Graber area, McPherson County, made potential of 1,986 bbls. of oil after acidizing with 4,000 gallons and was completed at 3,330 feet, total depth. Production was from Hunton lime, topped at 3,307 feet.

Nadel Oil Co. No. 2 Bengston, SW NE NE section 13-19-3w, Chindberg area, had a hole full of water and was abandoned at 3,010 feet, total depth. Top of Chat was 2,965 feet.

Hutchinson Oil & Gas Co. No. 1-A Lewis, NW SE SW section 26-19-2w, topped Kansas City lime at 2,320 feet, salt water intruded at 2,420 feet, but it was drilling ahead at 2,440 feet.

Harvey County

Tom Palmer and others No. 1 Haury B, C SE NE section 11-23-2w, Warkentine pool, was the only Harvey County completion of the week. It had Chat at 2,948-64 feet, was bottomed at 2,982 feet; acidized with 2,000 gallons and flowed 865 bbls. of oil in 12 hours.

Western Kansas Oil & Refining Co. and others No. 2 Denno, C SW SW section 12-23-2w, was a rotary rig. Bradley Oil Co. No. 1 Haury, NW NW SW section 13-23-2w, was building rotary rig.

Stafford County

Lario Oil & Gas Co. No. 1 Morgan, NW NW SE section 23-24-13w, St. John sector, Stafford County, made potential of 2,129 bbls. of oil in 24 hours and was completed at 4,083½ feet, total depth. Production was from Siliceous lime, topped at 4,064 feet. Top of Kansas City lime was 3,525 feet.

Empire Oil & Refining Co. No. 1 O'Connor, NE cor. section 17-24-15w, was location for a wildcat in southwestern Stafford County, near the Edwards County line.

Ellis County

Taylor and others No. 1 Emery, NE cor. section 23-14-18w, wildcat southeast of Hays, Ellis County, topped anhydrite at 1,162 feet; Kansas City, 3,285 feet; Siliceous lime, 3,558 feet; pumped 40 bbls. of oil and 10 bbls. of water in 20 hours at 3,570 feet, total depth; plugged back to 3,562 feet, perforated casing at 3,552-64 feet, failed to make a producer and was abandoned.

Loomis & Etyner No. 1 O'Laughlin, SE SE NW section 27-13-18w, wildcat, was an abandoned rig.

J. A. Aylward and others were moving in material at No. 1 Meis, NW cor. section 6-12-17w.

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Bridgeport Machine Co. No. 1 Kraus, NE NE SE section 21-14-19w, was a rig.

Barber County

Pure Oil Co. No. 1 Palmer, SE NE SW section 10-33-10w, Barber County wildcat, had Siliceous lime at 5,010-61 feet, total depth; drill-stem test showed water, and it was dry and abandoned. Kansas City lime was topped at 3,818 feet; Chat, 4,505 feet; Big lime, 4,558 feet; Hunton lime, 4,655 feet; Viola lime, 4,768 feet; Wilcox sand, 4,872 feet.

Sumner County

Continental Oil Co. No. 2 Rothrock, NE NW NW section 4-32-1w, south end of Wellington pool, Sumner County, made potential of 1,362 bbls. of oil after acidizing the second time, and was completed at 3,681 feet, total depth. Before acid treatment, it flowed 281 bbls. in 24 hours. Production was from Chat, topped at 3,636 feet.

Cowley County

Austin & McKnabb No. 1 Wilson, NE NE SE section 20-32-6, Cowley County wildcat, had sand at 2,899 feet, with a slight showing of oil; water intruded at 2,950-59 feet; Chat was topped at 3,060 feet, and it was dry and abandoned at 3,229 feet, total depth.

Trees Oil Co. No. 4 Littell, NE NW NE section 19-30-4e, was a cellar.

Chautauqua County

Griffin & Bell No. 12 Oliver, SE SE NW section 1-32-10, Chautauqua County, topped Siliceous lime at 2,279½ feet; had pay at 2,280-81 feet; was bottomed at 2,282 feet, pumped 50 bbls. of oil per day and was completed. Griffin Production Co. No. 8 Free, SE cor. section 15-32-12, was dry and abandoned at 1,640 feet, total depth.

Sagamore Oil Co. No. 9-B White, C SW NW section 15-32-12, was a location.

Elk County

Sagamore Oil Co. No. 24 Webb, SE SE NE section 14-31-10, Elk County, topped Kansas City lime at 1,315 feet; had pay at 1,336-47 feet, total depth; acidized with 2,000 gallons, and pumped 25 bbls. of oil daily, completed. James O'Neil Bruen and others No. 1 Palmer, SE SE SW section 27-31-10, topped Siliceous lime at 2,293 feet; had a hole full of water at 2,295 feet, and was dry and abandoned at 2,298 feet, total depth.

Butler County

Sheldon & Wixson No. 2 Huston, NE NW NE section 12-25-3e, Butler County, topped lime at 2,655 feet, was bottomed at 2,674 feet; acidized with 2,000 gallons, pumped 521 bbls. of oil in 48 hours and was given potential rating of 260 bbls. daily. Saco Oil Co. No. 1-B Brainerd, C E half SE SW section 35-24-3e, topped lime at 2,713 feet; total depth, 2,728 feet; acidized; pumped 355 bbls. of oil and 125 bbls. of water in 48 hours, and made potential of 178 bbls. of oil, completed.

Saco Oil Co. No. 2 Brainerd B, SW SE SW section 35-24-3e, was rigging up machine.

Coffey County

The only completion in Coffey County was at Hinze and others No. 1 Hanna, C N half NE SW section 12-23-14. It topped Mississippi lime at 1,590 feet; was bottomed at 1,642 feet; acidized and pumped 20 bbls. of oil in 24 hours.

Selby Oil & Gas Co. No. 3 Scott, NE NW NW section 13-23-14, was drilling at 765 feet. Shaffer & Howell No. 3 Tebbens, C NW NW section 18-23-15, was drilling at 810 feet.

Greenwood County

Guy Scott and others No. 1 Pedroja, SE NE SE section 6-26-10, wildcat, opened a new producing area north of the Reece pool and east of Eureka. It topped Mississippi lime at 2,122 feet; had pay at 2,154-61 feet, total depth; acidized with 1,000 gallons; pumped 250 bbls. of oil in 36 hours, and was estimated good for 100 bbls. of oil, with salt water.

T. K. Simmons No. 3 Ellis C, SW SW NW section 26-23-11, had sand at 1,899-1,969 feet, total depth; shot and pumped 60 bbls. of oil in 24 hours, completed. Lucille Oil Co. No. 7 Teichgraeber, 2,330 feet; shot and was completed as a 40-bbl. well, estimated. George Wetterhold No. 1-B Lewis, SW SW NE section 25-27-8, was abandoned at 815 feet, total depth.

Guy Scott and others No. 1 Hellman, SE NE SE section 6-26-10, was a cellar.

Woodson County

C. A. Aikman No. 1 Massey, C S half SW SE section 35-23-14, Woodson County, pumped 100 bbls. of oil in 24 hours after acidizing with 3,000 gallons and was completed at 1,630 feet, total depth. Production was from Mississippi lime, topped at 1,600 feet. Elbar Corp. No. 5 Opperman, NW NE NE section 27-23-14, topped lime at 1,611 feet, water intruded and it was dry and abandoned at 1,635 feet, total depth.

Higgins and others No. 1 Harding, C S half SW SE section 29-23-15, was drilling at 600 feet.

Miscellaneous Tests

Frost and others No. 1 Dolechek, NE NE SW section 36-14-8w, wildcat northeast of Ellsworth in Ellsworth County, was rigging up.

Phillips Petroleum Co. No. 1 Mainquist, SW SW NW section 9-9-17w, Rooks County, was building rotary rig for a wildcat southeast of the Dopita pool. Green Oil Co. No. 1 Yeagy, NE cor. section 17-9-17w, Rooks County, was a location.

Missouri Valley Gas Co. No. 1 Phillips, C S half section 10-35-39w, Hugoton gas field, Stevens County, was rigging up rotary.

New Gulf Coast Maps

Two new strip maps covering the Lower Gulf Coast district have just been completed by Gulf Coast Engineering Co., Houston, Tex., according to George M. Dougherty, president. One takes in lower San Patricio County and all of Nueces, Kleberg, Jim Wells and Duval counties. The other takes in part of San Patricio County, all of Aransas, Refugio and Calhoun counties, and parts of Victoria and Jackson counties. The former is scaled 4,000 feet to the inch and is 4½ by 9 feet in size. The latter is 1,000 feet to the inch and is 4½ by 15 feet in size. Both show lease ownerships and surveys, fields and wildcat tests drilled.

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OK SLO-SET CEMENT retains its flowability for a period of time amply sufficient for pumping the cement mixture completely into the well, under conditions of great depth, high pressure and high temperature. This is shown in the accompanying Setting Time Tests. When the period of delayed setting time is over, however, and the cement safely in place in the well, hardening takes place rapidly, as shown by the high tensile and compressive strengths in the accompanying tabulation, both at ordinary temperatures and at high temperatures.

OK SLO-SET CEMENT is a true Portland Cement and contains no admixtures or adulterants.

Use OK Slo-Set Cement and Protect Your Drilling Investment of Many Thousands of Dollars, which may be impaired or lost entirely by an unsuccessful cementing job

LABORATORY TESTS ON OK SLO-SET CEMENT

SETTING TIME TESTS

VICAT NEEDLE

TEMPERATURE	MIXING WATER	INITIAL SET
70° F.	40%	8 Hrs. 30 Min.
130° F.	40%	2 Hrs. 35 Min.
194° F.	40%	3 Hrs. 15 Min.

STRENGTH TESTS

POUNDS PER SQ. INCH

TEMPERATURE	MIXING WATER	—1 DA.—		—3 DA.—		—7 DA.—	
		TENSILE	COMPRESSIVE	TENSILE	COMPRESSIVE	TENSILE	COMPRESSIVE
70° F.	40%	170	1350	325	3300	460	5160
130° F.	40%	350	4030	435	6360	550	6800
194° F.	40%	375	4000	400	4100	425	4200

OKLAHOMA PORTLAND CEMENT CO.

1018 PERRINE BLDG. OKLAHOMA CITY

ARKANSAS PORTLAND CEMENT CO.

WALLACE BLDG. LITTLE ROCK, ARK.

Michigan Field Report

MICHIGAN BEGINS YEAR WITH NEW GLADWIN COUNTY POOL

By PAUL A. ELLIOTT

MUSKEGON, Mich., Jan. 11.—Michigan opened 1937 by setting a weekly completion record unequalled in many months, exceeding many recent months in new oil production, adding several new gassers, opening either a new oil pool or a major extension of a central state pool and confirming two previous wildcat strikes with important extensions. It was a most auspicious start for the new year.

The outstanding development was made in Buckeye Township, Gladwin County, where the J. V. Wicklund Development Co. brought in No. 1-A State, SW SW SE section 11-18n-1w, for an initial flow of 1,250 bbls. daily from the Dundee.

Located about 4 miles north and a mile west of previous Buckeye Township production discovered by the Goll, Graves & Mechling No. 1 Oard several months ago, the new producer is believed to have marked the opening of a new field. Topping the Dundee limestone at 3,534 feet, operators struck the first show at 3,595 feet and drilled about 25 feet deeper to 3,620 feet before testing the initial. The well was reported to have flowed from 37 to as high as 62 bbls. an hour.

J. V. Wicklund Development Co., which made the discovery, has started three offset and nearby tests. Mammoth Producing & Refining Co., of Clare, Mich., also has moved in equipment on three new locations, while the McClanahan Oil Co. has started a direct east offset. Other operators, including Dr. Virgil R. D. Kirkham and others, Daily Crude Oil Co., Sun Oil Co., Cryden Oil Co. and several individuals also are planning early action in the new sector.

Extends Pipe Line

Quick to recognize the future possibilities indicated by the new well, largest wildcat or semi-wildcat strike in Michigan since the Crystal field was opened March 28, 1935, the Simrall Pipe Line Corp. immediately laid about 5 miles of 4-inch line, an extension from other Gladwin wells, to take the production.

Gordon Oil Co. also completed a small producer, the No. 1-B R. C. Havens, SE SE SW section 25, Buckeye Township, near the discovery Oard, gauging 78 bbls. during the first 24 hours in the Dundee but later settling to 45 bbls. a day. Same company was delayed by a fishing job on casing from completing the Ray C. Havens No. 1, NE SW NW section 36, same township. One other test, the Rowmor Corp. No. 1 State, NW NW NE section 36, had just started drilling.

Isabella County

Another major contributor to the record of nearly 5,000 bbls. of new initial production from 10 new producers was the J. W. McIntosh No. 1 Thayer, SE SW NW section 23-16n-4w, Vernon Township, Isabella County, which was boosted from 75 bbls. a day to about 1,000 bbls. a day by acid treatment. An inside producer in a previously fairly well-defined field, the McIntosh-Thayer topped the Dundee at 3,717 feet and was drilled to 3,725½ feet. It averaged 800 bbls. each 24 hours for two days and flowed 500 bbls. the third.

Two other tests, offsets to the Dibble Brothers No. 1 Irwin, known as the "gas station" well, were failures in the Dundee, however. They were Nollem Oil & Gas Corp. and others No. 4 Crowley, NE NE NE section 27, same township, which topped the Dundee at 3,713 feet and was drilled to 3,766 without success, and the same operators' No. 5 Thayer, SE SE SE section 22, same township which struck the Dundee pay level at 3,719 feet.

North Vernon Pool

In the so-called North Vernon Township pool near Farwell, where the Chartiers Oil Co. opened a new area with the No. 1 Currie, the same operating concern developed a daily initial of 600 bbls. in No. 1 A. J. Archbold, C N half NW NW section 8, topping the Dundee at 3,923 feet and drilling to 3,937½ feet. The well flowed 106 bbls. the first hour and was pinched in to 600 bbls. a day under 300 pounds back pressure.

Three other tests in this vicinity brought down the batting average of the Archbold, however, as all were failures in the Dundee. They were: Chartiers Oil Co. No. 1 McIntosh and others, C S half SE SE section 6, Vernon Township, which topped the Dundee at 3,930 feet, hit black water at 4,064 feet and was bottomed at 4,078 feet; the Chartiers No. 1 Earl Wilson Estate, N half NE NE section 7, same township, which cased at 3,929 feet, and Edward Stewart No. 1 Eschenbach, SE NE SE section 6, same township, on which figures were not available.

Sherman—Isabella

Two new oil wells added more than 1,000 bbls. initial in the new Sherman Township, Isabella County field opened by the Pure Oil Co. in the No. 1 Embrey north of the Broomfield and Sherman Township gas field. Both were brought in as Dundee wells by the Pure.

The No. 1 Latham, NE NE SE section 33-15n-6w, was the larger, making 274 bbls., naturally, but increased to between 600 and 700 bbls. by acid treatment. Dundee was topped at 3,648 feet in this west offset to the discovery well which flowed from 25 to 35 bbls. an hour after acidizing. The No. 1-A R. Embrey, NE NE NE section 33, extended the field about half a mile north of the discovery with a flow of 400 to 450 bbls. a day, and will not be deepened or treated for the present. Total depth is 3,636 feet. The Pure No. 1-A Dutcher, NW SW SE section 28, same Township, struck water at 3,719 feet and completed as a dry hole at 3,739 feet. The McClanahan Oil Co. No. 1 Beutler, SW SW NW section 34, Sherman Township, was near Dundee completion.

The Weber Oil Co. No. 1 Helein, SW SE SE section 3-20n-4e, Clayton Township, Arenac County, east offset to the McClanahan Oil Co. discovery well which made up to 1,800 bbls. daily after being deepened and twice treated, was completed as the first successful producer since the discovery was brought in two months ago. It made more than 900 bbls., natural flow.

Open flow capacity of about 60,000,000 feet of Berea gas has been developed in the drilling tests, including two making 24,000,000 feet daily, one rated good for 9,000,000 feet and a number of smaller flows. The Devonian Oil Co. struck a flow of 24,000,000 feet in No. 1 Crandell, NW SE SE section 10, as did the McClanahan Oil Co. in the No. 2 Buffalo Land Co., NW NE NW section 10. T. F. Caldwell, Inc., struck 9,000,000 feet daily in No. 1 Peavy, NW SW NE section 9. Fortney Oil Co. failed to strike the gas, however, in No. 1 Reeder, NE NE SE section 16, after topping the Berea at 1,365 feet.

Ogemaw County

The Smith Petroleum Co. No. 1 Ellis, SE SE SE section 14-22n-1e, Ogemaw Township, made 75 bbls. a day, while the Wiser Oil Co. No. 1 Valley, SW SW SW section 18-22n-2e, West Branch Township, was good for 35 bbls. a day. Newell & Woughter boosted No. 1 Blakely from the 18 bbls. daily reported two weeks ago to 96 bbls. in 12 hours after acid treatment. It later settled to 35 bbls. a day.

Gassers

First recent completion in the Tri-Townships field of Mecosta and Montcalm counties was the Gordon Oil Co. No. 1 Church, C NE SE section 2-12n-7w, Belvidere Township, Montcalm County, which gauged 13,420,000 feet daily from the Michigan Stray sands.

Other Gas Fields

James McKay completed No. 10 fee, C NW NE section 6-17n-4w, the first well drilled in the Grant Township, Clare County, gas field for a year, with an open flow capacity of 2,500,000 feet daily from the Michigan Stray.

The Sun Oil Co. had drilled 90 feet into the Dundee without a show of oil or gas in No. 1 O. J. Campbell, NE NW NW section 12-19n-3w, a Hamilton Township, Clare County, wildcat.

The West Michigan Consumers Co. completed another small gasser in the new western Michigan Berea field in Ravenna Township, Muskegon County. It was No. 1 Jackson and others, C NW section 8-9n-14w, Ravenna Township, which topped the Berea at 1,186 feet, drilled through gas pay sands from 1,191 to 1,201 feet, and completed at 1,211 feet. It flowed about 500,000 feet before a 30-quart shot of nitro and was increased to about 800,000 feet with possibilities of making 1,000,000 feet when cleaned out.

With West Michigan Consumers Co., Lentz & Miller this week expected to complete No. 1 Ostbeck and others, C NW section 13, Sullivan Township, in the Berea gas sands.

Crystal Field

In the Crystal field, Michigan Exploration Co. No. 1 Klees, SE NW NW section 36-11n-5w, Ferris Township, was finished as a gasser making 1,275,000 feet daily.

Roy F. Ide missed the Michigan Stray gas sands in No. 1 Mortenson, C NW SW section 11-11n-6w, Day Township, Montcalm County, wildcat, started as a gas test but he continued to test the Dundee oil sands before abandonment.

Midland County

Pure Oil Co. added a 115-bbl. Dundee producer in Jasper Township, Midland County, completing Bond-Root No. 15, C S half NE NE section 3-13n-2w.

Wildcats

E. J. Turner completed No. 1 Haas, NE quarter section 6-4n-3e, Conway Township, Livingston County, and abandoned it at about 1,000 feet after failure to strike gas production in the Berea.

Gulf Refining Co. No. 1 Moorman, NW NW NW section 7-11n-2w, Emerson Township, Gratiot County, wildcat, struck water in the Dundee but was drilling a little deeper.

North Michigan Land & Oil Corp. was abandoning No. 2 Hartwick Trust, NE NW NW section 31-24n-4w, Lyon Township, Roscommon County, a northern Michigan wildcat test, after it was dry in the Dundee at 3,265 feet.

M. Bliss Keeler reported a show in the Traverse in No. 1 Beall, C NE NW section 24-18n-9w, Cedar Township, Osceola County.

East and East Central Texas

By
L. E. BREDBERG

17 COMPLETIONS IN TALCO; FIVE WILDCATS ABANDONED

DALLAS, Tex., Jan. 11.—Twelve locations were staked in the past week in the Talco field in Titus and Franklin counties, five of which started drilling before the week was up. Six locations were staked in the Sulphur Bluff pool in Hopkins County, the greatest number in any one week since this pool was discovered. No dry hole has yet been drilled in the area, the operators having stayed close to the discovery well thus far.

Three completions were recorded for the Sulphur Bluff field, and 17 completions were reported for the Talco field, two being put on air lift, one swabbing and four put on the pump when completed. The remainder flowed.

Wildcatting

Five wildcat tests in the East Texas district were abandoned, one of the most important being that of Roth & Faurot on the J. L. Shaw lands, in the O. R. Reams Survey, 5 miles north of Centerville, in Leon County. This test was given up as dry at a total depth of 6,158 feet. Elevation is 301 feet.

Two and a half miles south of the southern end of the Rusk County portion of the East Texas field, John W. Merritt abandoned No. 1 Stallings, in the T. Uzzell Survey, at a total depth of 3,944 feet. Elevation is 360 feet.

Abercrombie & Harrison, in Red River County, abandoned their third try for production in the area 10 miles northeast of Clarksville. Total depth is 3,944 feet, and elevation is 403 feet. Another test to seek Paluxy production in that county is to be drilled by the Carpenter Oil Corp. of Fort Worth on the J. M. Roberts farm, in the John Ware Survey, in the area in which Abercrombie & Harrson have been unsuccessful.

The Texola Land Corp. is shut down at 41 feet on its No. 1 J. M. Goin, in the Joseph Merrick Survey, 2 miles southwest of Wolfe City. This is another Trinity test for Hunt County, which is to receive another at once. Benn Oil Corp. and others are moving in a heavy rotary on the A. B. Parrish farm in the Nancy Danley Survey in the southeastern part of the county, about 4½ miles southeast of the tentative test to be drilled by the Stanolind Oil & Gas Co. on their large block in the Campbell area. This new test is located on a block taken following surface and subsurface geological work and a survey made by the Geophysical Petroleum Surveys, Inc., of Dallas. It will be carried to 6,500 feet, and W. F. Mack of Tyler will sink the test.

Test 3,000-Acre Block

Another test for the district is to be drilled by T. E. Johnson and F. G. Mannan on a block of 3,000 acres west of Irving, in Dallas and Tarrant counties. Contract will call for a 4,000-foot test about 7 miles west of that city.

Scott & Woodside staked a wildcat test on the W. & T. Nash farm, in the J. Cortez Survey, 1 mile east of Scurry in the southwestern part of Kaufman County. It may be carried to the Trinity, as this location is along the fault line which is now being tested from the Talco field on the northeast to the Mexia field on the southwest for Trinity production. Many of the areas along this plane have previously proven barren in the Woodbine series, but never tested in the Trinity series.

The deep test of the Humble Oil & Refining Co. and Tide Water Oil Corp. on the L. J. Eastern farm, in the R. Hotchkiss Survey, near Emory in Rains County, is now drilling at 7,535 feet, or 35 feet past contract depth, coring in anhydrite at this depth, without penetrating the Lower Glen Rose series, where it hoped to pick up the pay equivalent to the Rodessa pay zone. It topped the anhydrite at 6,985 feet, and may be drilled until it strikes water. This test has been one of the more important ones in the district.

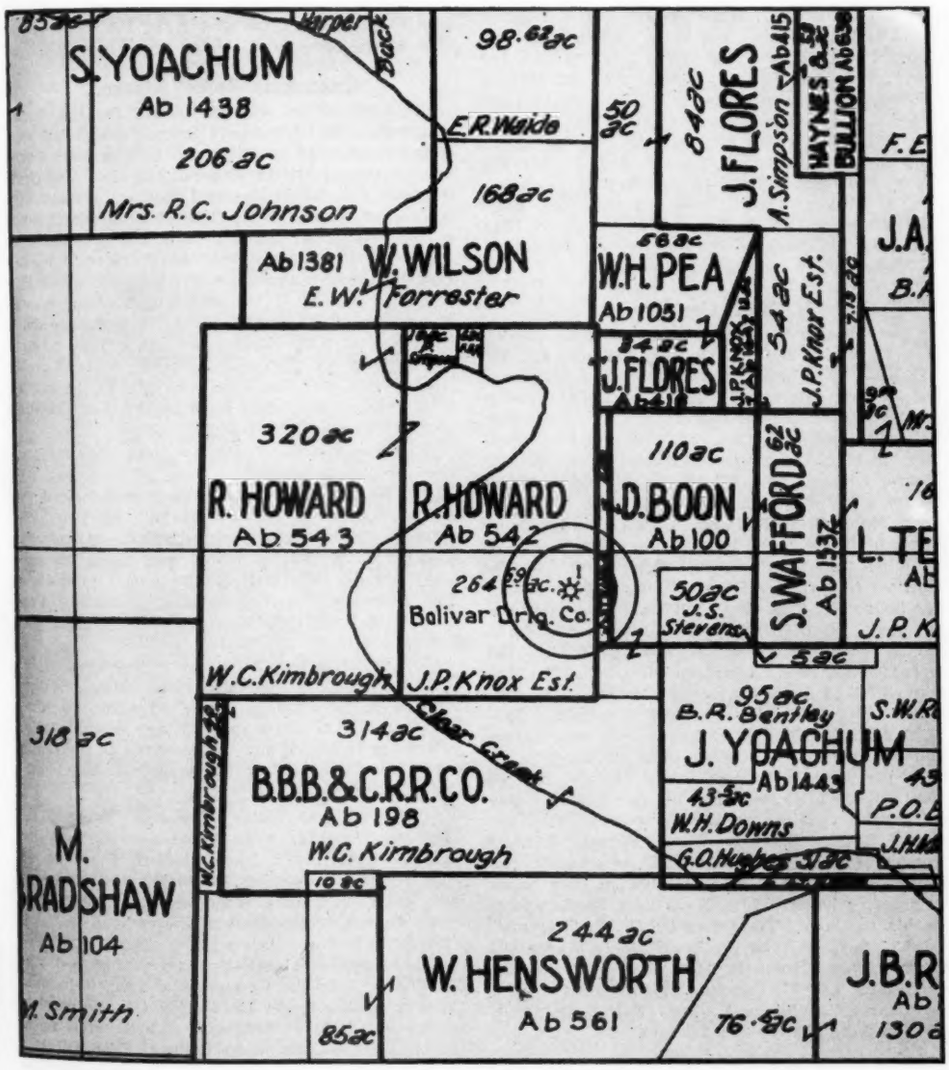
Another deep abandonment for the district was made by J. C. Bonham and others on lands of the Angelina Lumber Co., in the J. Gomez Survey, 14 miles southeast of Nacogdoches in the county of that name. Elevation is 241 feet, and total depth is 5,935 feet.

Cayuga Extension

The Cayuga field in northwestern Anderson and southwestern Henderson counties was extended 1,000 feet farther north this week when Roeser-Pendleton, Inc., of Fort Worth brought in their No. 3 Thompson in the T. J. Lindsay Survey. Total depth is 4,096½ feet, 4½ feet in the saturated sand.

Heating Talco Crude

The Humble Pipe Line Co. has placed heaters in each of its four pump stations on its 65-mile 8-inch line from Talco to Longview station to heat the heavy Talco crude to more easily move it through the pipe line, which has already snapped when pressure has been applied to move the low-gravity viscous crude. However, with the advent of snow and a sold snap, which shut down many drilling operations in the northern part of Texas, the capacity of the line is expected to be curtailed to a small amount regardless of the heaters. Producing the oil will also be a difficult job during this low-temperature spell. Producing this crude has already given the operators several problems, and with severe weather striking this part of



Bolivar Drilling Co. No. 1 Knox, in the N. Howard Survey, wildcat in northwest Denton County, which struck an estimated 3,000,000 feet of gas when drilling at 1,930 feet. It was shut down at that depth to run casing. Location is about 12 miles northwest of Denton and about 35 miles north of Fort Worth.—(Southwest Mapping Co., Fort Worth)

Texas many of the wells may be shut down until temperatures rise again.

COMPLETIONS IN EAST CENTRAL TEXAS

Anderson County

Stanolind Oil & Gas Co. No. 1 Robinson, total depth 5,344 feet, initial production 141 bbls. in 24 hours through one-eighth inch choke.

Collin County

California Consolidated Oil Co. No. 1 Flagg, top Paluxy 2,651 feet, total depth 3,514 feet, plugged back to 2,667 feet, dry and abandoned, elevation 684 feet.

Franklin County

Humble Oil & Refining Co. No. 19 King, 4,159-4,309 feet, 336 bbls. in 24 hours on pump. Magnolia Petroleum Co. No. 4 Owings, 4,147-4,300 feet, 15 bbls. per hour.

Freestone County

Wheelock and Collins No. 1 W. R. Boyd, top sand 4,370 feet, total depth 4,515 feet, dry and abandoned, elevation 425 feet, 4 miles southwest of Fairfield.

Henderson County

Joe A. Worsham No. 3 Wathen, 4,002-4,102 feet, 116 bbls. in 24 hours through one-eighth inch choke.

Hopkins County

Hager and others No. 6 Worsham, 4,488-4,535 feet, 60 bbls. per hour; No. 1 Worsham, 4,456-4,537 feet, 27 bbls. per hour. F. D. Jones and others No. 7 Pierce, 4,462-4,531 feet, 35 bbls. per hour.

Leon County

Roth and Faurot No. 1 J. L. Shaw, dry and abandoned 6,158 feet, elevation 301 feet.

Nacogdoches County

J. C. Bonham and others No. 1 Angelina Lumber Co., dry and abandoned 5,935 feet, elevation 241 feet, 14 miles southeast of Nacogdoches.

Navarro County

Spandsco Oil & Refining Co. No. 3-A Kellum, 1,260 feet, 5 bbls. per day on pump, 10 miles south of Buffalo.

Red River County

Abercrombie & Harrison No. 3 Southern Pine Lumber Co., dry and abandoned 3,944 feet, elevation 403 feet, 10 miles northeast of Clarksville.

Rusk County

John W. Merritt No. 1 Stallings, dry and abandoned 3,944 feet, elevation 360 feet.

Titus County

B. G. Byars and others No. 1 Belcher, 4,207-4,328 feet, 85 bbls. in four hours. G.M.W. Production Co. No. 1 Dyer, 4,130-4,370 feet, 10 bbls. per hour on air lift; No. 3-26 Talco Townsite, total depth 4,370 feet, plugged back to 4,359 feet, 11 bbls. per hour on air lift; No. 4-33 Talco Townsite, 4,138-4,370 feet, 90 bbls. in 24 hours. W. B. Hinton and others No. 4 Wilson, 4,202-4,314 feet, 18 bbls. per hour. Housh and others No. 1 Blackburn, total depth 4,306 feet, 60 bbls. in 24 hours; No. 1 Norris, 4,158-4,345 feet, 447 bbls. in 24 hours on pump.

Humble Oil & Refining Co. No. 2 Fishback, 4,185-4,349 feet, 144 bbls. in 20 hours through one-fourth inch choke; No. 20 King, 4,163-4,317 feet, 284 bbls. in 24 hours on pump; No. 3 Monnig Dry Goods Co., 4,280-4,319 feet, 158 bbls. in 24 hours through one-fourth inch choke. Luce and others No. 2 Pope, 4,149-4,307 feet, 256 bbls. in 24 hours on pump; No. 1 Pope, 4,095-4,305 feet, 263 bbls. in 24 hours on pump. Magnolia Petroleum Co. No. 3 Mainard, 4,226-4,305 feet, 192 bbls. in 24 hours. J. S. Rushing No. 1 Mitchener, 4,240-95 feet, 60 bbls. per hour on swab. Tide Water Oil Co. No. 1 Wilson, 4,233-4,338 feet, 12 bbls. per hour.

EAST TEXAS COMPLETIONS

Gregg County

Arkansas Fuel Oil Co. No. 41 Burnside, 3,487-3,512 feet, 27 bbls. in 15 minutes. Atlantic Refining Co. No. 81 Judge, 3,512-3,655 feet, 118 bbls. per hour. Gulf Oil Corp. No. 17 Lacy-Snyder, 3,467-78 feet, 57 bbls. per hour. Humble Oil & Refining Co. No. 31 Holland, 3,588-3,632 feet, 80 bbls. per hour. Joe Long Drilling Co. No. 15-A Owens, 3,566-80 feet, 60 bbls. per hour. Magnolia Petroleum Co. No. 8 Goolsby, 3,528-42 feet, 116 bbls. per hour; No. 9 Goolsby, 3,545-65 feet, 110 bbls. per hour. Sells Petroleum Co. No. 10 Fisher, 3,599-3,644 feet, 80 bbls. per hour. Shell Petroleum Corp. No. 25 Richey, 3,540-86 feet, 19 bbls. in 15 minutes; No. 26 Richey, 3,557-93 feet, 23 bbls. in 23 minutes. Stanolind Oil & Gas Co. No. 13 Cox & Hamon, 3,498-3,513 feet, 20 bbls. in 32 minutes; No. 12 Ingram, 3,507-71 feet, 68 bbls. per hour; No. 9 Jones, 3,566-3,663 feet, 70 bbls. per hour.

Stanolind Oil & Gas Co. No. 15 Jones, 3,504-77 feet, 51 bbls. per hour. Stroube and Stroube No. 7 Bumpass, 3,462-95 feet, 50 bbls. per hour. Sun Oil Co. No. 13 Shoults, 3,611-61 feet, 30 bbls. in 30 minutes; No. 10 Tate, 3,501-69 feet, 40 bbls. per hour. J. Apple No. 2 Johnson, 3,536-43 feet, 15 bbls. in 10 minutes. Baggett No. 2 Crews, 3,701-02 feet, 20 bbls. per hour on pump. Gulf Oil Corp. No. 32 Alexander, 3,521-22 feet, 21 bbls. in 21 minutes; No. 28 Muckelroy, 3,543-58 feet, 60 bbls. per hour. H.&F. Oil Corp. No. 4 Crews, 3,714-15 feet, 20 bbls. in 30 minutes. T. L. James and others No. 11 Lacy, 3,529-63 feet, 65 bbls. per hour. E. M. Jones No. 4 Crim, 3,523-65 feet, 40 bbls. in 2 hours. Jones-O'Brien, Inc., No. 5 Lloyd, 3,567-3,607 feet, 80 bbls. per hour. Landsberry No. 15 Money, 3,575-76 feet, 40 bbls. per hour; No. 21 Money, 3,573-75 feet, 40 bbls. per hour.

W. McVey No. 1 Woods, dry and abandoned, 3,582 feet. Willie Mack Oil Co. No. 1 Dickey, 3,699-3,700 feet, 20 bbls. per hour on pump. Murko Oil & Royalty Co. No. 5 Hale, 3,456-75 feet, 20 bbls. in seven hours on pump. Potter and others No. 1 Dillingham, 3,537-95 feet, 20 bbls. in seven hours on pump. Refugio Oil Co. No. 4 Hughey, 3,475-94 feet, 50 bbls. per hour. Shell Petroleum Corp. No. 13-B Bivens, 3,670-76 feet, 60 bbls. per hour; No. 14-B Bivens, 3,639-43 feet, 22 bbls. in 15 minutes. Sinclair Prairie Oil Co. No. 27 Lawther, dry and abandoned 2,615 feet. H. R. Smith No. 3 Alexander, 3,518-35 feet, 33 bbls. per hour. Sun Oil Co. No. 43 Cole, 3,514-34 feet, 49 bbls. per hour, No. 9 Smith, 3,632-40 feet, 60 bbls. per hour; No. 4 Walker, 3,592-94 feet, 40 bbls. per hour. Texas Co. No. 23 Walker, 3,586-87 feet, 17 bbls. per hour. Wells-Gann Drilling Co. No. 4 Johnson, 3,533-45 feet, 20 bbls. in 35 minutes.

Rusk County

Devonian and others No. 38 Motley, 3,727-30 feet, 15 bbls. per hour. Overton Refining Co. No. 2 Morris, 3,695-96 feet, 20 bbls. per day on pump, 20 per cent salt water. Amerada Petroleum Co. No. 28 Stovall, 3,614-37 feet, 11 bbls. in 15 minutes. Atlantic Refining Co. No. 12-C Pinkston, 3,568-3,666 feet, 40 bbls. per hour. Gant and others No. 25 Moore, 3,560-80 feet, 25 bbls. per hour; No. 28 Moore, 3,565-89 feet, 20 bbls. per hour. Gulf Oil Corp. No. 6 Crim, 3,774-80 feet, 40 bbls. per hour through three-fourths inch choke. Humble Oil & Refining Co. No. 15 Fuller, 3,699-3,700 feet, 90 bbls. per hour; No. 8 Glover, 3,669-75 feet, 40 bbls. per hour; No. 6 Lindsey, 3,697-3,779 feet, 50 bbls. per hour. Hunt Oil Co. No. 10-B Hale, 3,651-3,725 feet, 35 bbls. per hour; No. 11-B Hale, 3,681-3,706 feet, 20 bbls. in six hours on pump; No. 7 Plowman, 3,713-25 feet, 48 bbls. per hour.

T. L. Jaggers and others No. 3 Dickerson, 3,544-3,600 feet, 60 bbls. in 24 hours on pump. Moss and Urschel No. 4 Griffin, 3,635-3,747 feet, 25 bbls. per hour on pump. Ohio Oil Co. No. 40 Moore, 3,659-3,730 feet, 32 bbls. per hour. Pansy Oil Co. No. 3 Minchew, 3,788-94 feet, 20 bbls. per hour. Rogers Brothers No. 3 Thrash, 3,723-84 feet, 60 bbls. per hour. Royal Petroleum Co. No. 14 McDavid, 3,648-91 feet, 20 bbls. in four hours on pump. Shasta Oil Co. No. 4 Pool, 3,703-15 feet, 35 bbls. per hour. Tex-Jersey Oil Co. No. 4 Hanna, 3,636-37 feet, 50 bbls. per hour. Tide Water Oil Co. No. 10-A Thompson, 3,643-83 feet, 11 bbls. in 10 minutes. G. H. Vaughn, 3,771-82 feet, 20 bbls. per hour. Venable and others No. 37 Birdwell, 3,603-08 feet, 100 bbls. in 2 hours.

Upshur County

Barnett Petroleum Co. No. 6-B Cannon, 3,621-22 feet, 20 bbls. in 30 minutes. John W. Harrison, trustee No. 3 Medlin, 3,757 feet, 10 bbls. per hour on pump. Magnolia Petroleum Co. No. 24 Hampton, 3,624-45 feet, 104 bbls. per hour. P. H. Pewitt No. 5 Jones, 3,784-85 feet, 65 bbls. per hour. P. H. Pewitt No. 2 Phillips, 3,724-28 feet, 20 bbls. per hour; No. 3 Phillips, 3,750-51 feet, 20 bbls. per hour on pump; No. 4 Phillips, 3,750-62 feet, 20 bbls. in 30 minutes; No. 8 Williford, 3,746-47 feet, 18 bbls. in 20 minutes. Stanolind and Falcon Oil Co. No. 1 Cannon, 3,619-23 feet, 20 bbls. in 25 minutes. J. E. Watts No. 5 O'Byrne, 3,816-17 feet, 40 bbls. per hour.

Smith County

Cockburn and others No. 6 Green, 3,789-90 feet, 22 bbls. in 30 minutes. Maryland Corp No. 3 Cross, 3,714-15 feet, 15 bbls. in two hours on pump. Wheelis Oil Corp. No. 11 Patterson, 3,685-86 feet, 21 bbls. per hour.

Gulf Coast Fields

(Continued from Page 72)

uled to be made at a higher level which will probably be made in the discovery horizon around 9,300 feet. No. 1 Crocker is located 2,400 feet north of the discovery well in the E. Hall Survey.

Preparations were being made by the Salt Dome Oil Corp. to test No. 1-A Lawrence after a cement retainer had been set at 6,517 feet. The cement was drilled out from 6,517-24 feet and if the water shut off was successful, the casing will be perforated from 6,481-92 feet. The well is located 2½ miles south of the Cotton Lake field in the Solomon Barrow Survey, Chambers County.

Magnolia Petroleum Co. No. 1 Willie Beck opened a dry gas field for Victoria County when it tested an estimated 25,000,000 feet of gas daily. The well was originally drilled to a depth of 4,812 feet and was completed through perforated casing at 3,575-85 feet. It is located in the T.&N.O. Survey, east of the town of Victoria.

Extensions Seem Assured

Two extensions seemed assured for the Lockridge field in Brazoria County as two outpost tests encountered showings in the discovery horizon. Approximately a half mile southeast of Gulf Oil Corp. No. 2-A Wilkes and Smith, the discovery well, same company's No. 1 Gibson topped oil sand at 6,351 feet and cored to a depth of 6,358 feet where a drill stem test was scheduled to be made. East of the discovery, about 2,000 feet, Shell Petroleum Corp. No. 1 Prison Farm is coring ahead in sand below 6,319 feet, after a five-minute drill stem test at 6,252-19 feet showed 500 pounds of gas pressure with no oil. The only doubtful well, is Gulf Oil Corp's No. 1 Reiss located to the northeast which is coring in hard sand below the discovery horizon at 6,746 feet.

The second oiler for the Ace field, Polk County, was completed by Peyton Bros. at their No. 1-B Kirby West which was swabbed and flowed an estimated 6 bbls. of 50.2 gravity oil per hour through a one-quarter inch adjustable choke with working pressure 1,500 pounds and casing pressure 1,750 pounds. The well has been shut in while a high pressure separator is being installed. Production is from the Cockfield sand through perforated casing at 4,858-62 feet.

The third producer for the new Silsbee field, Hardin County, is scheduled to be completed during the week as Republic Production Co. and Houston Oil Co. are running 7-inch casing at No. 4 Brooks, bottomed at 6,970 feet. Oil sand was cored from 6,940-65 feet and sand and shale showing oil from 6,965-70 feet.

The northeast limits of the Anahuac field, Chambers County, were apparently defined by Gulf Oil Corp. No. 1 Acom which is shutdown at 7,142 feet after showing 13 thribbles of mud and salt water on a drill stem test from 6,890-7,130 feet. It is a north offset to the company's No. 1 Pommer, a producer in section 46, H.&T.C. Survey.

Three wildcat locations were announced for the district. In the Greens Lake area, Galveston County, Mills Bennett Production Co. has derrick up for No. 1 J. W. Williams. Three miles from the Altair area, Colorado County, Eden Oil Co. has derrick up for No. 1 Trulla Wells in the Whitting and Osborne League, while across the line in Fayette County McNeil Petroleum Co. is moving in material for No. 1 Dybla located in the A. Thompson Survey.

Rocky Mountain Area

By
T. R. INGRAM

STORM SLOWING OPERATIONS IN ROCKY MOUNTAIN REGION

DENVER, Colo., Jan. 11.—The holiday season, an epidemic of influenza and a cold wave which sent the temperature far below zero slowed up drilling operations all the way from Canada to New Mexico. Colorado had one well abandoned in the old Boulder field.

In Wyoming, Ohio Oil Co. completed two wells in the Byron-Garland area in Big Horn County. Medicine Bow Oil Co.'s discovery in a 25,000,000-foot gas well on the Allen Lake dome in Carbon County will be killed to drill deeper and test the lower Sundance for oil. Resolute Oil Co. No. 1 State, in Badger Basin, deepest producing field in the Rocky Mountain area, flowed 200 bbls. per day through a choke and proved 1,000 acres for light-oil production. One small pumper was completed at Hidden dome.

In Montana one well was completed but not tested in Cut Bank and one new location was released in the Kevin-Sunburst field. Dakota-Montana Utilities Co.'s second deep test in Fallon County has a show of oil at 6,700 feet.

NEW MEXICO

The largest well completed in New Mexico the past week was Anderson-Prichard Oil Corp. No. 6 Britt, C SE SW section 7-20-37, Monument area. It had lime pay at 3,808-3,856 feet, total depth, and flowed 165 bbls. of oil an hour, naturally. Gas gauged 1,403,560 feet.

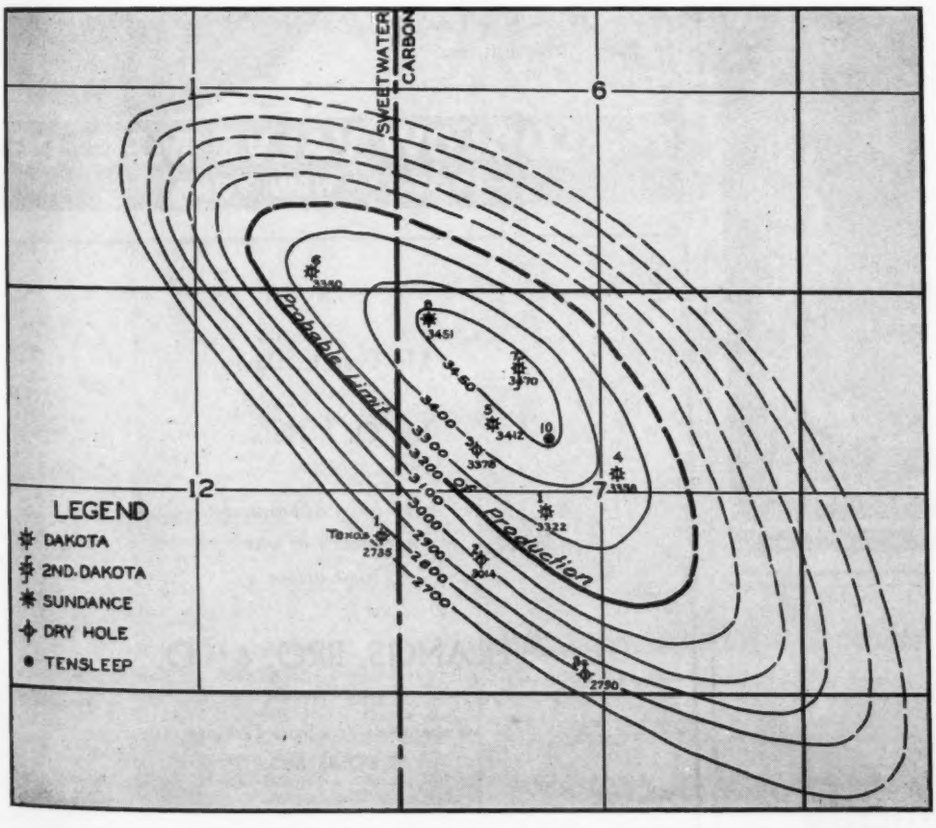
Other Monument completions: Stanolind Oil & Gas Co. No. 1 Gillully, C SW SW section 8-20-37; topped pay at 3,763 feet; total depth, 3,858 feet; flowed 80 bbls. an hour naturally through three-fourths inch tubing choke. Amerada Petroleum Corp. No. 3 State T, C SE NW section 25-19-36, was acidized three times and flowed 175 bbls. of fluid daily on gas lift, with 37 per cent basic sediment and water; total depth was 4,030 feet. Same company's No. 7 State T, C NW SW section 28-19-37, total depth 3,954 feet, flowed 51 bbls. of oil in five hours after two acid treatments. Continental Oil Co. No. 2 Sanderson A, C N half NW SE section 11-20-36, flowed 46 bbls. of oil an hour, naturally, through tubing choke; total depth, 3,875 feet. Gulf Oil Corp. No. 1 Hatchett, C NW SW section 33-19-37, total depth 3,895 feet, was acidized with 7,000 gallons and flowed 55 bbls. of oil in six hours.

In the Eunice field, Shell Petroleum Corp. No. 2 State G, C NW NW section 6-21-36, had first oil at 3,761 feet; was bottomed at 3,854 feet; and flowed 220 bbls. of oil naturally in four hours through tubing. Continental Oil Co. No. 17-B-4 Meyer, C NE NE section 4-21-36, was shot with 180 quarts and flowed 32 bbls. of oil an hour; it topped pay at 3,732 feet and was bottomed at 3,832 feet. Humble Oil & Refining Co. No. 8 Knox, C NE SE section 10-21-36, total depth 3,865 feet, flowed 20 bbls. of oil naturally. Gulf Oil Corp. No. 5 Orcutt C, C SE SE section 36-20-36, was bottomed at 3,847 feet, was acidized and flowed 70 bbls. of oil in four hours, completed.

Skelly Oil Co. completed two wells on its acreage in the Sims sand pool. The No. 1 W. P. Sims B, C NW NE section 10-23-37, had first pay at 3,530 feet; was shot with 150 quarts at 3,533-85 feet; total depth, 3,600 feet; and flowed 56 bbls. of oil through tubing in six hours. Gas gauged 500,000 feet. The No. 1 H. O. Sims D, C SE NW section 3-23-37, topped pay at 3,523 feet and was bottomed at 3,620 feet. It was shot with 140 quarts at 3,542-82 feet, and flowed 55 bbls. of oil in 13 hours through tubing, with an estimated 6,000,000 feet of gas.

In the Knight extension of the Stuart sand pool, Plains Production Co. No. 3 Knight, C SE SE section 21-24-27, had natural flow of 281 bbls. of oil through tubing in 12 hours. It topped pay at 3,430 feet and drilled one foot in. It is a south offset to the extension discovery well.

Location was announced for Stanolind Oil & Gas Co. No. 30-X Capps, section 3-19-38, on the east side of the Hobbs field. This is the first well to be started at Hobbs in several months. Twenty-seven other new tests were started in Lea County.



Wertz dome, southern Wyoming, where the Sinclair-Wyoming Oil Co., in section 7-26n-89w, made an oil discovery in the Tensleep at 5,883 feet, estimated at 2,000 bbls. per day of 35 gravity crude.—(Petroleum Information, Inc., Maps, Denver)

Monument Area

Skelly Oil Co. No. 2 State F, C SW SE sec. 17-20-37. Cellar and pits.
Continental Oil Co. No. 1 Sanderson B, C E half NE NE sec. 10-20-36. T.D. 3,900 ft.; flowed 19 B.O. in 7 hrs.; to set packer.
Gulf Oil Corp. No. 1 Graham-State G, C SW SE sec. 17-19-37. T.D. 3,995 ft.; cleaning out.
Anderson-Prichard Oil Corp. No. 1 Britt B, C SE SW sec. 5-20-37. T.D. 3,870 ft.; flowed 66 B.O. an hour.
Continental Oil Co. No. 1 Britt B, C NE NW sec. 8-20-37. T.D. 2,860 ft.; W.O.C.
Ennisbrook Oil Corp. No. 1 Wulff, NW cor. sec. 17-20-37. Drlg. 3,700 ft.
Phillips Pet. Corp. No. 1 Patsy, C NW NE sec. 18-20-37. T.D. 306 ft.; set 12½-in. csg.
Skelly Oil Co. No. 1 Van Etten, C NW SW sec. 9-20-37. T.D. 3,815 ft.; drlg. plug.
Humble O. & R. Co. No. 2 Laughlin, C SW SW sec. 4-20-37. Drlg. 1,630 ft.
Gulf Oil Corp. No. 2 Kutter A, C NW SE sec. 20-19-37. T.D. 3,775 ft.; W.O.C.
Amerada Pet. Corp. No. 1 Larsen, C SE SW sec. 32-19-37. Drlg. 3,122 ft.
Stanolind O. & G. Co. No. 2 Gillully, C NW NE sec. 21-20-37. Drlg. 2,830 ft.
Amerada Pet. Corp. No. 1 Byrd, C NW NE sec. 12-20-36. T.D. 2,365 ft.; set 8⅝-in. csg.
Amerada Pet. Corp. No. 2 Byrd, C SW NE sec. 12-20-36. Drlg. 2,326 ft.
Repollo Oil Co. No. 2-A Bordages, sec. 21-19-37. T.D. 3,982 ft.; to deepen.
Barnsdall Oil Co. No. 6 Cooper, sec. 7-20-37. Drlg. 1,965 ft.
Empire O. & R. Co. No. 4 Laughlin, sec. 8-20-37. Drlg. 2,070 ft.
Ohio Oil Co. No. 8 Barber, sec. 5-20-37. Drlg. 1,121 ft.
Ohio Oil Co. No. 1 Laughlin, sec. 9-20-37. R.U.R.
Amerada Pet. Corp. No. 2 Larsen, C NE NW sec. 32-19-37. T.D. 206 ft.; set 12½-in. csg.
Amerada Pet. Corp. No. 1 Love, C NW SE sec. 32-19-37. Rig up.
Amerada Pet. Corp. No. 2 Anderson, C SE SW sec. 8-20-37. Bldg. rig.
Amerada Pet. Corp. No. 2 Phillips, C NE SW sec. 33-19-37. Cellar.
Amerada Pet. Corp. No. 1-W State, C SE NE sec. 30-20-37. R.U.R.
Amerada Pet. Corp. No. 2-W State, C SW NE sec. 30-20-37. Bldg. rig.
Continental Oil Co. No. 1-B-18 Britt, C NW NW sec. 18-20-37. R.U.R.
Gulf Oil Corp. No. 2 Anderson, C NE NW sec. 17-20-37. Location.
Gulf Oil Corp. No. 2-F Graham-State, NE NE sec. 36-19-36. Bldg. derrick.
Gulf Oil Corp. No. 3-B Kutter-State, C NW NW sec. 28-19-37. R.U.R.
Gulf Oil Corp. No. 4 Mathews, C NE SE sec. 6-20-37. Moving in material.
Gulf Oil Corp. No. 3 Sunshine, C NE SW sec. 30-20-37. Cellar and pits.
Gulf Oil Corp. No. 1-B Weir, C NW SE sec. 26-19-36. Location.
Gulf Oil Corp. No. 2 Whitmire, C NW NE sec. 8-20-37. Derrick.
Humble O. & R. Co. No. 2-D State, C NE NE sec. 20-19-37. R.U.R.
Humble O. & R. Co. No. 9 State-Aggies, C SW NW sec. 31-20-37. Cellar and pits.
Oil Well Drlg. Co. No. 1 Wood-State, NW¼ sec. 16-20-37. Location.
Oil Well Drlg. Co. No. 2 Wood-State, NW sec. 16-20-37. Location.
Shell Pet. Corp. No. 4-B State, C SE NW sec. 36-19-36. Location.

Tide Water Oil Co. No. 2-I State, C NE SW sec. 16-20-37. Location.

Eunice Area

Gulf Oil Corp. No. 4 Orcutt C, C SE NW sec. 6-21-36. T.D. 3,860 ft.; testing.
Amerada Pet. Corp. No. 4 Houston, C SW NE sec. 7-21-36. T.D. 3,894 ft.; to test.
Getty Oil Corp. No. 1 State D, C SE NE sec. 32-20-37. T.D. 3,860 ft.; shot and cleaning out.
Skelly Oil Co. No. 1 State G, C NW SE sec. 30-20-37. T.D. 3,840 ft.; to acidize.
Shell Pet. Corp. No. 2 State J, C SW SE sec. 32-20-37. T.D. 3,841 ft.; testing.
Gulf Oil Corp. No. 2 Molly Campbell, C NE SW sec. 7-21-36. Drlg. 3,615 ft.
Two States & Southern Pet. Ex. No. 1 McQuatters, C NW SE sec. 11-21-36. Cellar and pits.
Two States & Southern Pet. Ex. No. 2 McQuatters, C SE NE sec. 11-21-36. Drlg. 3,760 ft.
Gulf Oil Corp. No. 1 J. H. Daly, NE NE SW sec. 6-22-36. Drlg. 3,393 ft.
Shell Pet. Corp. No. 2 State K, C SE NE sec. 36-20-36. T.D. 3,750 ft.; drlg. plug.
Atlantic Ref. Co. No. 1 State M, C NE SE sec. 36-20-36. Drlg. 3,318 ft.
Gulf Oil Corp. No. 2 Sunshine, C SE SW sec. 30-20-37. T.D. 3,816 ft.; fishing.
Empire O. & R. Co. No. 3 State F, C SE SE sec. 30-20-37. Drlg. 3,681 ft.
Sun Oil Co. No. 5 Adkins, C SE SE sec. 3-21-36. Drlg. 3,577 ft.
Texas Pacific Coal & Oil Co. No. 3 State A, Acct. 2, C SW NE sec. 8-22-36. Drlg. 3,381 ft.
Humble O. & R. Co. No. 8 State-Aggies, C NE NW sec. 31-20-37. Drlg. 3,828 ft.
Gulf Oil Corp. No. 4-C Bell-State, C SE NW sec. 15-21-36. Bldg. derrick.
Gulf Oil Corp. No. 3 Campbell, C NW SW sec. 7-21-36. Cellar and pits.
Gulf Oil Corp. No. 4 Collins, C NE SW sec. 14-21-36. Derrick.
Gulf Oil Corp. No. 4 Houston, C NW SE sec. 7-21-36. Bldg. derrick.
Gulf Oil Corp. No. 4-C Janda-State, C NE SW sec. 15-21-36. Bldg. derrick.
Gulf Oil Corp. No. 4 Leonard, C SW NE sec. 22-21-36. Cellar and pits.
Gulf Oil Corp. No. 6 Orcutt C, C NE NW sec. 6-21-36. Bldg. derrick.

Sims Area

Devonian Oil Co. No. 1 Christmas, NE NE SE sec. 28-22-37. T.D. 3,603 ft.; 1,000 ft. oil in hole.
Skelly Oil Co. No. 1 R. R. Simms C, C SE SW sec. 3-23-37. T.D. 3,381 ft.; fishing.
Penrose & Rowan No. 3 Cary, C SE NW sec. 22-22-37. T.D. 1,305 ft.; waiting on tools.
W. H. Street et al No. 1 Wood, C W½ SE NE NE sec. 22-22-37. Drlg. 2,260 ft.
Amon G. Carter No. 1 E. M. Elliott, sec. 22-22-37. T.D. 3,624 ft.; flowed 20 B.O. naturally; running tubing.
J. E. Farrell No. 1 Walden C, sec. 15-22-37. T.D. 3,502 ft.; fishing.
J. E. Farrell No. 1-A Walden, C SW NW sec. 15-22-37. T.D. 3,537 ft.; W.O.C.
Skelly Oil Co. No. 2 R. R. Simms, C NE SW sec. 3-23-37. T.D. 1,193 ft.; W.O.C.
Skelly Oil Co. No. 3 Baker, C NE NW sec. 27-22-37. Drlg. 3,507 ft.

Cooper Area

Southern Oil Corp. No. 1 Gates, C SW NW sec. 23-24-36. T.D. 3,514 ft.; S.D. for orders.
Yingling Oil Co. No. 1-B-3 Vaughan, C SE NW sec. 3-24-36. Drlg. 3,224 ft.
Yingling Oil Co. No. 1-B-9 Vaughan, NE cor. sec. 9-24-36. Drlg. 2,375 ft.
Shell Pet. Corp. No. 1 Guthrie, C SW SE sec. 34-23-36. T.D. 3,606 ft.; testing.
El Paso Natural Gas Co. No. 1 G. W. Toby, C SE SE sec. 12-24-36. T.D. 300 ft.; W.O.C.

Lea County—Miscellaneous

Plains Prod. Co. No. 4 Knight, C SW SW sec. 22-24-37. M.I.M.
C. L. Carlock et al No. 1 Quincy-Ricker, C SE SE sec. 7-16-36. Wildcat; drlg. 4,845 ft.
J. C. Clower No. 1 Turner, C SE SE sec. 29-21-37. Drlg. 3,555 ft.
Culberson-Irwin & Stovall No. 2 Stuart, NW SE NE sec. 20-25-27. T.D. 3,277 ft.; fishing.
Samedan Oil Co. No. 2 Hughes, C NW SE sec. 4-23-37. Drlg. 3,575 ft.
Brown & Reynolds No. 1 Parcell, C NW SE sec. 8-21-38. Wildcat; T.D. 3,160 ft.; drlg. by tools.
Baldridge et al No. 1 Blakely, C NW NE sec. 5-20-38. Wildcat; drlg. 3,475 ft.
Rushwood Oil Co. No. 1 Carter, C NW NE sec. 30-20-38. Wildcat; drlg. 4,160 ft.
Texas Co. No. 2 Sheppard A, C SW NW sec. 6-26-37. T.D. 3,150 ft.; testing.
Maxwell, Crandall & Osmond No. 1 Lane-State, C SW NW sec. 32-10-34. Wildcat; drlg. 4,521 ft.
Texas Co. No. 1 Black, C SW NW sec. 21-24-37. T.D. 3,497 ft.; shot; flowed 443 B.O.; running tubing.
Magnolia Pet. Co. No. 3 Carson, C SW SW sec. 28-21-37. T.D. 3,775 ft.; C.O.
Tide Water Oil Co. No. 1 Coates B, C NW NW sec. 21-25-37. T.D. 3,077 ft.; S.D.O.
Amon G. Carter No. 2 Elliott, C NE NW sec. 22-22-37. Drlg. 3,120 ft.
Magnolia Pet. Co. No. 1 State G, NW NW NE sec. 21-17-34. Drlg. 4,090 ft.
Empire O. & R. Co. and Repollo Oil Co. No. 1 Brunson, NW NW SE sec. 4-22-37. Drlg. 3,518 ft.
Anderson-Prichard Oil Corp. No. 2 Carlson, C SW NW sec. 21-25-37. T.D. 2,881 ft.; testing.
Shell Pet. Corp. No. 1 State T, C SE NE sec. 34-20-35. Wildcat; T.D. 4,045 ft.; testing.
Getty Oil Co. No. 2 Hardy, C SW SE sec. 20-21-37. T.D. 3,800 ft.; running tubing.
Texas Co. No. 1 V. M. Henderson, SE SE NE sec. 30-21-37. Drlg. 3,756 ft.
Getty Oil Co. No. 1 Etz, C NE NE sec. 12-21-32. Wildcat; T.D. 1,017 ft.; set 10¾-in. csg.
Culberson-Irwin & Stovall No. 3 Stuart, NE SE SW sec. 10-25-37. Cellar and pits.

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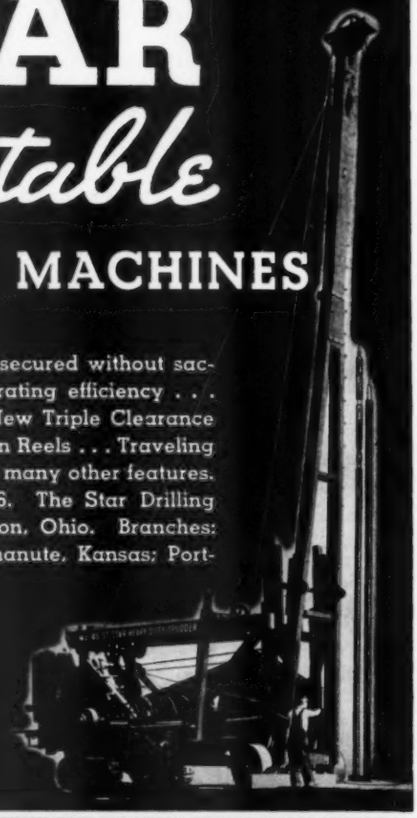

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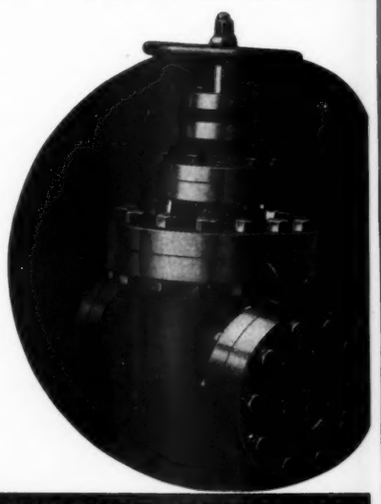

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Continental Oil Co. No. 1 Wantz, C SW SW sec. 21-21-37. Drlg. 2,540 ft.
Maljamar Oil & Gas Co. No. 8 Baish, C SW NW sec. 21-17-32. Bldg. rig.
Mid-Continent Pet. Corp. No. 1 Greer, sec. 21-22-36. R.U.R.
Ohio Oil Co. No. 5 State-McDonald, sec. 16-22-36. Drlg. 1,375 ft.
Stanolind O. & G. Co. No. 1 Byers, sec. 22-24-37. Loc.
Texas Co. No. 1 Alexander, sec. 5-21-37. Cellar and pits.
Repollo Oil Co. No. 2 Boyd, sec. 23-22-37. T.D. 3,700 ft.; C.O.
Repollo Oil Co. No. 1 York, sec. 20-21-37. T.D. 3,850 ft.; C.O.
El Paso Natural Gas Co. No. 2 Harrison, C NW NW sec. 29-24-37. T.D. 412 ft.; W.O.C.
El Paso Natural Gas Co. No. 1 Harrison, C NW NW sec. 7-25-37. T.D. 202 ft.; setting csg.
Continental Oil Co. No. 3-A-19 Eaves, C N half NW SW sec. 9-26-37. T.D. 280 ft.; W.O.C.
Sun Oil Co. No. 2 Stewart, C SW NE sec. 15-25-37. Loc.
Tide Water Oil Co. No. 2 Walden, C SW NE sec. 21-22-37. Loc.

Eddy County

Clint Murchison et al No. 1 State A, C NE SW sec. 16-17-31. T.D. 3,165 ft.; S.D. for repairs.
Barnsdall Oil Co. No. 4 Dodd, C SE SE sec. 22-17-29. T.D. 2,803 ft.; C.O.; est. 200 B.O. daily.
Fred Brainard No. 1 Berry, C E½ NW NW sec. 23-17-27. T.D. 1,950 ft.; fishing.
Tignor-Etz & Keys No. 5 Keys A, C E½ SW SW sec. 10-17-28. T.D. 1,982 ft.; S.D. for repairs.
Etz Bros. No. 3 State, sec. 16-17-30. T.D. 3,252 ft.; swedging.
Hammond et al No. 1 State, SW SE SW sec. 15-27-28. T.D. 1,967 ft.; C.O.
McGinley & Harwell No. 7 Mann, SW cor. sec. 4-18-27. T.D. 2,186 ft.; set 6⅝-in. csg. 1,260 ft.
Premier Pet. Co. No. 1 McIntyre G, NW NW NE sec. 21-17-30. Drlg. 2,997 ft.
Flynn, Welch & Yates No. 75 State, C E½ SE SE sec. 10-19-28. Drlg. 2,112 ft.
Flynn, Welch & Yates No. 3 Gissler, SW SE SW sec. 14-17-30. Drlg. 2,650 ft.
Flint Prod. Co. No. 1 Flint, SE SW SE sec. 14-17-30. Drlg. 2,530 ft.
Adams and others No. 1 Page, sec. 15-21-28. Wildcat; machine.

Roosevelt County

Clovis Corp. No. 2 Wilmes, C SE NE sec. 17-2s-30e. T.D. 1,400 ft.; to set 10-in. csg.
Maxwell, Crandall & Osmond No. 1 Williamson, C NW NW sec. 7-8s-36e. Wildcat; drlg. 4,310 ft.
Wirt Franklin and Flynn, Welch & Yates No. 1 Catts, C NW NW sec. 28-3n-30e. Drlg. 4,145 ft.

Hobbs Field

Stanolind O. & G. Co. No. 30-X Capps, SE sec. 3-19-38. Loc.

NORTHWEST NEW MEXICO

Bernalillo County

Norrins Realty Co., Inc., No. 2 North Albuquerque, SE NW NW sec. 19-11n-4e. Drlg. 2,950 ft. in hd. gray sd.

McKinley County

S. Dysart No. 1 Bouten, NW NE sec. 14-14n-10w. T.D. 1,490 ft.; cmtd. 12½-in. 1,060 ft.

San Juan County

R. R. Burke No. 2 Govt., NW NW NE sec. 18-31n-13w. S.D. 297 ft.
Continental Oil Co. No. 34 Tribal, C SW SW sec. 2-29n-19w. Cmtd. 5-in. at 863 ft.
Angel Peak Oil Co. No. 7 Govt., Lot 2, sec. 11-28-11w. S.D. 1,160 ft.
Jack Amenda No. 4 Hart, NW NE SW sec. 25-30n-12w. Drlg. 1,540 ft.

COLORADO

Boulder County

Baker and others No. 3 McKenzie, NW NE NW section 21-1n-70, in the old Boulder field, about 500 feet east of the discovery well which started the Boulder boom more than 30 years ago, is shut down at 2,816 feet and probably will be abandoned. It found the Hygiene, from which the discovery produced at 2,520 feet, bone dry.

Moffat County

Mountain Fuel Supply Co. No. 1 Stewart, C SW SW sec. 31-12n-97w. Drlg. 1,925 ft.; 12½-in. at 335 ft.
Mountain Fuel Supply Co. No. 1 Kuykendall, NE NE SE sec. 22-12n-100. T.D. 2,790 ft.; P.B. to 2,537 ft.; cmtd. 4¾-in. at 2,495 ft.; S.D. for winter.

Park County

South Park Oil Co. No. 1 Lemar, NE NE SE sec. 34-11s-75. Drlg. 3,420 ft.; 10¾-in. at 3,400 ft.
South Park Oil Co. No. 1 State, SE NE SW sec. 16-11s-75w. Drlg. 5,665 ft.; 10¾-in. at 5,645 ft.

Pueblo County

Phillips Pet. Co. No. 1 Andover-Century, NE SW NW sec. 26-18s-65w. Drlg. 2,052 ft.; below Lakota.

WYOMING

Albany County

Murphy Oil Co. No. 5 Holst, SE NE SE sec. 13-17n-77. Drlg. 3,490 ft.
Hal Blakeman No. 1 Chapple, C NE NW sec. 31-21-76. S.D. 1,650 ft.
Murphy Oil Co. No. 6 Holst, NW NE SE sec. 13-17n-77. M.I. Rot.

Big Horn County

Ohio Oil Co. had two completions in the Byron-Garland field. No. 1 Clarissa Willey, NE NE NW section 25-56n-97, on the Byron dome, was completed in the Tensleep at 5,429 feet, total depth, and swabbed 120 bbls. in 10 hours. It was shut in to complete tankage. It had Embar at 5,223 feet and cemented 7-inch on top of Tensleep at 5,250 feet.

Ohio Oil Co. No. 2 Smith, CWL NW SE section 32-46-97, Garland dome, was completed in the Madison lime at 4,201 feet, total depth, and

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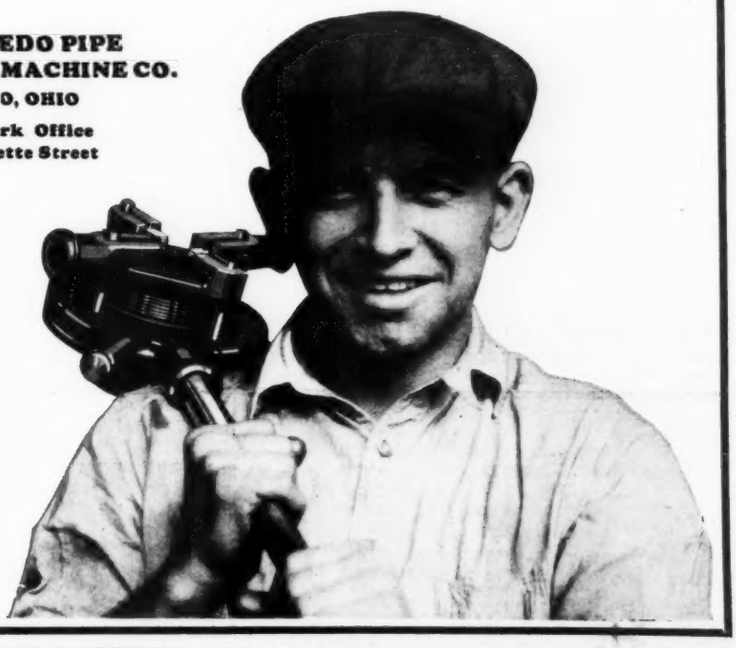

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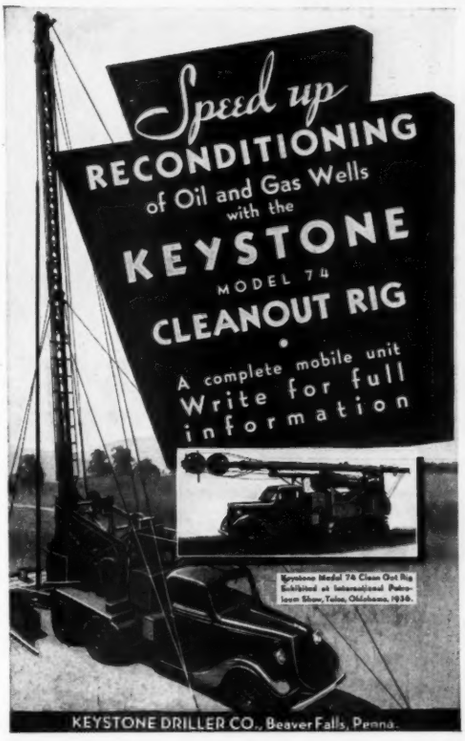

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swabbed 336 bbls. first 24 hours. It is rigging up to pump. Top of Madison was at 3,792 feet and 5⅞-inch was cemented on top of pay at 4,070 feet. This well is 625 feet southwest of Stock Oil Co. No. 1 Allen, the burning gas well, was used as a relief hole to pump water through the formations to the gasser. When this method failed to kill the burning gas well, No. 2 Smith was continued to the Madison and completed as a producer.

Stock Oil Co. No. 1 Allen, which has been out of control for nearly a year, is now being pumped through No. 1-B Allen, drilled as a relief well. The flow of gas has been reduced about 50 per cent and it is probable another attempt will be made to shoot out the flame after pumping mud into the tubing, which is cut off about 1,100 feet from the surface.

Ohio Oil Co. No. 1 State, NE cor. Lot 38, sec. 36-46n-97. Drlg. 4,069 ft.
Taylor Oil Co. No. 1 Robinson, SW SW NW sec. 34-56n-97. S.D. 3,030 ft.

Carbon County

Medicine Bow Oil Co. No. 1 Hintze-Government, C NE SE section 18-22n-78, reported a completion last week for 25,000,000 feet of gas in the Upper Sundance at 2,058 feet, marking a four-mile extension of the Allen Lake gas field, is preparing to drill deeper to test the Lower Sundance sands for oil production.

Ohio Oil Co.-California Co. No. 2 Kyle, C SE SE sec. 26-21n-79w. Bldg. rig.
Ohio Oil Co.-California Co. No. 4 Union Pacific, C SW SW sec. 25-21n-79w. Bldg. rig.
Ohio Oil Co. No. 7 H.&C., C NW sec. 2-19-78. Drlg. 4,259 ft. in r.b.

Converse County

Chadron-Osage Oil Co. No. 1 State, SW SW sec. 16-32n-69w. S.D. 3,050 ft.; many install rotary.
Wyoming Southern Oil Co. No. 2 Salisbury, NE NW SE sec. 27-32n-69w. Drlg. 331 ft.

Goshen County

Ohio Oil Co. No. 1 Red Cloud Cattle Co., NW NE NW sec. 28-29n-62w. M.I.M. and drlg. W.W.

Laramie County

Amerada Pet Corp. No. 1 Morton, C SW SW sec. 13-13n-68. Drlg. 8,467 ft. in blk. sd.

Niobrara County

There were no completions in Lance Creek. One new location was released by Ohio Oil Co. The department of the interior has called for bids on royalty oil from government land in the field beginning April 1. Bids will be on oil for periods of three and five years. The field is now running better than 10,000 bbls. a day with all wells on proration. Field potential is about 70,000 bbls. a day.

J. M. Huber Corp. No. 1 Midwest, SE SE SW sec. 27-36n-65w. Dismantling old equipment and prep. to install rotary to deepen from 3,540 ft. to the Sundance.
Argo Oil Co. No. 3 Ford, SW SW NW sec. 33-36n-65w. Drlg. 3,100 ft.; 12½-in. at 201 ft.
Bay-Elwell No. 1 Joss, C SE SE NW sec. 1-34n-66w. Drlg. 2,010 ft. in blk. sh. and bentonite.
Continental Oil Co. No. 5-A Schuricht, C NW SW sec. 5-35n-65w. Drlg. 2,340 ft. in sh. and shells.
Holly Dev. Co. No. 1 Novick, NE SE SW sec. 6-35n-65. T.D. 3,578 ft.; cmtd. whipstock fourth time.
Lewis Gokel No. 1, NE SE NW sec. 31-35n-62w. Drlg. 970 ft.
J. M. Huber Corp. No. 2 Jose, NE NE SW sec. 6-35n-65. T.D. 3,982 ft.; swbg. in; top saturation 3,973 ft.
Ohio Oil Co. No. 5 Leo OPC-16, NW NW SW sec. 35-36n-65w. Rig.
Ohio Oil Co. No. 7 Putnam, NE NE SW sec. 33-36n-65w. R.U.R. (first report).
Ohio Oil Co. No. 9 Lamb, C SE NW sec. 5-35n-65w. Drlg. 3,305 ft.; 12½-in. at 199 ft.

Riggs Oil Co. No. 2 Spaugh, SE SW SW sec. 32-34n-65w. S.D. 1,092 ft. for winter.
Chester Oil Co. No. 1 fee, NE NE NE sec. 14-39n-61. Drlg. 1,011 ft.

Park County

Resolute Oil Co. No. 1 State, C NW SW section 16-57n-101w, in the Bager Basin field, deepest producing field in the Rocky Mountain area, was completed in the second Frontier at a total depth of 8,469 feet and flowed 200 bbls. per day through a three-eighths inch choke on the tubing with a bottom-hole pressure of 4,000 pounds. The sand was at 8,422-69 feet and the operator believes deeper drilling would have increased production, but it was decided to complete at present depth on account of weather. A Schlumberger test indicated the hole went through about 100 feet of first Frontier sand. The well was pinched in for a test on account of high gas pressure. The location is three-fourths of a mile southeast of the discovery completed in 1931 at 8,723 feet for 50 bbls. per day, establishing a depth record for the region. The oil tests 51 gravity. The company, headed by Julius C. Peters, of Great Falls, Mont., operates a small refinery in the field and markets the product at Great Falls. The discovery well has produced 85,000 bbls. to date. The second well is approximately 125 feet higher than the discovery. The two wells prove about 1,000 acres on the structure which comprises about 20,000 acres, mostly owned by the Northern Pacific railroad. The Lower Frontier, Dakota and Sundance horizons have not been tested. Elevation of No. 1 State is 4,279 feet.

General Pet. Corp. No. 1 Govt., NW NW NW sec. 31-47-100. Drlg. 5,600 ft. in L.

Platte County

Dividend O. & R. Co., Inc., No. 1, CSL NW SW sec. 17-24n-66. Drlg. 2,485 ft.

Sheridan County

Beaver Creek Oil Co. No. 1 Allison, SW SE sec. 15-55-85. S.D. 3,200 ft.

Washakie County

Two wells were completed in the Hidden Dome field. Wyoming Oil & Refining Co. No. 6 Government, CWL NW NW section 31-48n-90w, pumped 30 bbls. initially at 1,545 feet. Christenson & Thorne No. 3 Government, NW SW SW section 31-48n-90w, was plugged at an unreported depth. Former total depth was 1,320 feet and it was preparing to plug back to 200 feet to straighten.

Wood-Callahan Oil Co., Ltd., No. 1 Keye, NE NE NW sec. 25-48n-91w. T.D. 1,831 ft.; S.O.; rng. 8¼-in.

Weston County

Conway Oil Corp. No. 2 Govt., SE SE NW sec. 7-41n-61w. R.U.R.

MONTANA

Big Horn County

Daniels Pet. Co. No. 1 May, C SE SE sec. 13-1s-33e. S.D. 3,840 ft.; S.O. in Tensleep; will lower pipe.

Cascade County

C. Leonard Smith No. 1-A Smith-Schwingle, NE NE SW sec. 14-22n-2e. S.D. 620 (C.D.) ft. in top Dakota for winter.

Carbon County

East Bridge O. & G. Co. No. 1, CSL SE SE sec. 23-6s-23e. S.D. 1,477 ft.; C.D.; to run 8¼-in.
Ohio Oil Co. No. 1 Northern Pacific, SE NE SW sec. 11-7s-21. T.D. 5,772 ft.; cmtd. 4½-in. at 5,542 ft.; rng. tubing to test.
Miracle Oil Co. No. 2 Blue Creek, CWL NE NE sec. 3-6s-23e. T.D. 1,235 ft.; rmg. 8-in. hole to S.O.W.
Henderson Prod. Co. No. 1-H-11 Elk 11, SE SE NW sec. 35-9s-23e. S.D. 810 ft.; weather.

Fallon County

Montana-Dakota Utilities No. 2 Warren No. 1 Unit 5, C SW sec. 23-8n-59e. Drlg. 6,400 ft.
Montana-Dakota Utilities Co. No. 3 Smith No. 1 Unit 8, C SE NW sec. 8-4n-62e. T.D. 6,700 ft.; U.R. for W.S.O.; S.O. at 6,510-51 and 6,700 ft.; water somewhere between 6,551 and 6,700 ft.

Fergus County

Judith Op. Co. No. 2 Govt., CWL NW NE sec. 35-22n-17e. Drlg. 3,196 ft.
Emmons et al No. 4 Govt., SW cor. sec. 3-21n-18e. Drlg. 445 ft.

Glacier County

One well was completed, but not tested in the Cut Bank field. There were no new operations. Temperature is below 15° below zero.

A. R. Cobb No. 2 Allotted 115, SE NE SE section 31-33n-5w, had 1,400 feet of oil in the hole at 2,831 feet, total depth. Sunburst at 2,760-72 feet was dry. The Cut Bank was at 2,786-2,830 feet and the pay at 2,793-2,830 feet.

Glacier Prod. Co. No. 1 Williams, C SW SE sec. 21-33n-5w. R.U.
Wm. Hanlon, Agt., No. 1 All.-127, C SE NE sec. 12-33n-6w. Drlg. 2,725 ft.
Hannah-Porter Co. No. 2 All.-130, C NE SW sec. 6-32n-5w. Drlg. 2,145 ft.
Montana-Dakota Oil Co. No. 1 Tribal 136, C NE NE sec. 15-34n-6w. Drlg. 1,700 ft.

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Montana Power Gas Co. No. 1 Federal Land Bank, C SW SW sec. 30-34n-5w. Cmtd. 7-in. at 2,803 ft.; W.O.C.
Vera Johnson No. 1 Tribal-118, C SW SW sec. 1-32n-6w. S.D. 2,900 ft. for 8¼-in.
Dan Whetstone No. 2 Tribal-117, C NE SW sec. 36-33n-6w. Drlg. 2,545 ft.
A. E. Wilkinson No. 2 All.-126, NW NW NW sec. 7-32n-5w. T.D. 2,770 ft.; drlg. by tools and cmtd. with 15 sacks.

Pondera County

Clinch Pet., Ltd., No. 1 Holan, NW SW NW sec. 12-23s-6w. T.D. 2,200 ft.; cleaned up fshg. job, and S.D.
K. P. Hardee No. 1 Hughes, NW NE NW sec. 12-30n-4w. T.D. 2,494 ft.; drlg. by tools.
Kirk Oil Co. No. 1 Kellogg, SE NW NE sec. 31-28n-4w. S.D. 2,130 ft.

Toole County

One new operation was reported in the Kevin-Sunburst field. There were no completions. Ohio Oil Co. No. 4 Berg had to shut down on account of the weather after entering the sand but before the well could be completed.

Big West Oil Co. No. 5 Dahlquist, NW SW NE sec. 21-35n-3w. T.D. 1,798 ft.; Ellis-Madison at 1,780 ft. dry; will acidize.
Bryant Bros. No. 1 Lashbaugh, NW SE NW sec. 34-35n-2w. S.D. 850 ft.
W. M. Fulton No. 1 Thompson, NW SW NE sec. 28-35n-3w. Cmtd. 7-in. at 1,700 ft.; W.O.C.
Kevin-Butte Synd. No. 1 Thompson, NE NE NW sec. 32-35n-3w. S.D. 725 ft.
Ohio Oil Co. No. 4 Berg, C SW SW sec. 31-33n-1w. S.D. 1,310 ft.
Ogden-Kevin Co. No. 7 Zachot, SE SW NW sec. 20-35n-1w. S.D. 900 ft.
Wm. S. McKnight No. 1 Gunderson, SW SE NW sec. 9-35n-2w. S.D. 800 ft.
Shaver Oil Co. No. 1 Schaffer, SW SE NE sec. 11-34n-2w. S.D. 1,473 ft.; will acidize; Ellis-Madison 1,470 ft.; S.O.
Smith & Walsh No. 1 fee, C NW SE sec. 18-34n-1w. M.I.M. (first report).
Welch Bros. No. 2 Larum, SW SW NW sec. 25-35n-3w. S.D. 1,658 ft.; (cor.).
Watson et al No. 2 Leach, SE NE NE sec. 31-35n-3w. Rig.

UTAH

Daggett County

Mountain Fuel Supply Co. No. 1 Lauzur, CNL NW NW sec. 27-3n-24e. Dk.; S.D. for winter.

Emery County

California Co.-Continental Oil Co., No. 1-A Palm, C NW NW sec. 27-23s-11e. Drlg. 836 ft.; lost cir.

Grand County

Columbia Crude Corp. No. 1 Rath, NW SW SW sec. 12-35-20e. T.D. 1,900 ft.; prep. run 7-in. for W.S.O.
Utah Southern Oil Co. No. 1 Hyde, SE NW NW sec. 33-22s-22e. Drlg. 5,938 ft.

Louisiana-Arkansas Fields

(Continued from Page 70)

Cotton Valley, a sand member of the Travis Peak, claimed interest for the week. This horizon was formerly penetrated in Ohio Oil Co. No. 6 Holloway several months ago when that test explored the section to 8,616 feet, where oil and gas were logged at four distinct depths, one at 5,500 feet, the 8,100-foot level, and two others below. The Holloway well was plugged back to the 5,500-foot sand, termed the Holloway sand, and completed there flowing 590 bbls. daily. Subsequent to this completion several other wells were begun, having the deep horizons as their objectives.

This week Ohio Oil Co. No. 4 Bodcaw Lumber Co., NE SE section 28-21-10, cored oil sand from 8,172 to 8,188 feet, Schlumberger test showed good saturation and porosity, and 7-inch casing was set at 8,170 feet. Initial tests of the well indicated a potential 25,000,000 feet gas flow, carrying heavy distillate saturation which is estimated at over 1,000 bbls. daily.

ARKANSAS

Miller County

A new deep oil-producing field in the southwest corner of Arkansas, 4 miles northeast of the Garland City field (producing from the Paluxy, which is also productive at Talco), seems definitely assured. C. V. Lenz No. 7 Dale, old well drilled deeper after abandonment in April, 1936, at 2,867 feet, in section 24-15-26, drilled the Lower Glen Rose and had heavy oil showings from 4,210-4,215½ feet where sand tested 18.5 per cent porosity. Casing was set and the fluid level rose steadily in the hole. At the present total depth of 4,217 feet the well is flowing about 20 bbls. daily by heads, while standard pumping equipment is being installed.

Nevada County

The Troy field continues the center of Arkansas activity, and excitement was created when John R. Lewis No. 1 W. Haynie got out of control and blew wild for several days, making about 20,000,000 feet of gas and about 2,500 bbls. of salt water with oil showings from the Nacatoch sand, 1,163 to 1,169 feet. The well has been brought under control. Gas is desirable in the field at this time.

Newly developed reserves in the Troy field are estimated in the neighborhood of 25,000,000 bbls.

EAST TEXAS (Border Counties)

Panola County

Lawler Petroleum Co. No. 1 Bucknell, Anderson Survey, 1 mile south of Elysain fields, has been abandoned as dry at total depth of 6,004 feet, after finding zones of the Lower Glen Rose nonproductive.

ALABAMA

Washington County

Arkansas Fuel Oil Co. No. 1 McClure, NE of section 5-5n-2w, spudded in on January 3 for exploration of its block here.

FLORIDA

Lake County

Oil Development Co. of Florida No. 2 Gulf Exploration Co., section 17-24s-25e, drilling 5,801 feet.

Nassau County

St. Mary's Rives Oil Corp. No. 1 Hilliard Turp. Co., section 19-4n-24e, drilling 795 feet.

MISSISSIPPI

Hinds County

Robert Chichester and others No. 1 Gerwin, section 12-5n-4w, drilling 2,095 feet.

State of Mississippi No. 2 fee, NW section 25-6n-1e, drilling 3,195 feet in igneous material. This is deep test of Jackson gas field.

Claiborne County

Claiborne O.&G. Drilling Co. No. 1 Crawford, section 6-13n-4e, drilling 2,017 feet.

Lamar County

Sun Oil Co. No. 1 Scanlan and Semes (deep test) section 28-4n-15w, reaming at 2,000 feet, total depth 2,177 feet.

Perry County

Fred E. Caurson and others No. 2 Jefferson Lumber Co. NE section 2-2n-10w, drilling 2,271 feet.

Oklahoma Fields

(Continued from Page 77)

feet, total depth. Clowe & Tucker No. 2 Woodworth, SW NE NW section 20-4s-2w, was unable to shut off water and was abandoned at 1,897 feet, total depth.

New work in Carter County: Louis Sikes, Inc., No. 6 Eaves, NE SE NW section 5-2s-2w, rigging rotary tools; Sun Oil Co. and others No. 34 Mullin B, SE NW SW section 3-4s-3w, location; Roy M. Johnson No. 18 Davis, SE SE NW section 6-4s-3w, setting 12-inch casing, total depth, 103 feet; Lyle-Wham Development Co. No. 1 M. Jackson, NE SW SW section 26-5s-1e, wildcat, machine on location.

Southwestern Oklahoma

Raizen Brothers No. 10 Price, NE SE SW section 10-3s-5w, had sand at 220-238 feet; total depth, 240 feet; pumped 2 bbls. of oil in 24 hours and was the only Stephens County completion.

Duke and others No. 1-A Wootin, SE cor. section 33-6-9w, Cement area, Caddo County, had broken sand at 2,300-2,400 feet; total depth, 2,416 feet; produced 1,164,000 feet of gas and was completed. Magnolia Petroleum Co. No. 10 Lindsey, SW NW SE section 36-6-10w, Caddo County, was dry and abandoned at 5,825 feet, total depth, in shale.

Lincoln Oil Co. No. 1 N. G. Deer, NW NW SE section 13-5s-8w, Jefferson County wildcat, topped Arbuckle lime at 3,372 feet and was dry and abandoned at 3,500 feet, total depth.

Carter Oil Co. was digging cellar and pits for No. 1 A. N. Harley, C NE NE section 24-2s-4w, Stephens County wildcat. It is south of the Milroy pool in Stephens County and about 4 miles west of the deep discovery well in the Fox pool, Carter County. It is to be an 8,200-foot test, and is a community test in which Gulf Oil Corp., Skelly Oil Co. and Magnolia Petroleum Co. are interested with the Carter company.

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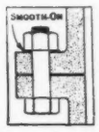
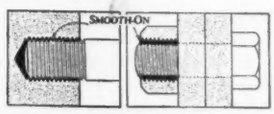
LOCKING LOOSE NUTS. TIGHTENING AT WORN THREADS

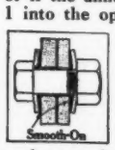


To lock a nut, apply a little Smooth-On No. 1 putty under the nut before tightening. To tighten bolts or nuts with worn threads, coat the threads with a soft putty of Smooth-On No. 1 and assemble.

ASSEMBLING THREADED PARTS OF DIFFERENT SIZES



To fasten a bolt or stud in an oversize hole, or an oversize nut on a bolt, coat the threads with a putty of Smooth-On No. 1, and assemble, or if the annular space is large, tamp Smooth-On No. 1 into the opening and allow to set.



TIGHTENING LOOSE BOLTS

Apply cupped washers at both ends, and put a putty of Smooth-On No. 1 under the washers. Tightening the nut forces Smooth-On into the voids, and expansion in hardening prevents looseness.

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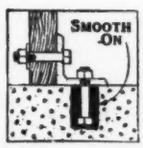

Drill a slightly oversize hole, fill with a soft putty of Smooth-On No. 1, insert the stud head or post end in the soft cement and tamp Smooth-On No. 1 into the annular open space and allow to harden.

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Southwest Texas District

By
GEORGE WEBER

AMERADA FINDS DEEPER OIL AND GAS ZONE IN PEARSALL

HOUSTON, Tex., Jan. 11.—Results of several wildcats and field tests in widely separated sections of Southwest Texas attracted considerable attention during the past week. The Fault Line Zone came into prominence again as the Amerada Petroleum Corp. made an oil and gas discovery in the Edwards lime of the Pearsall field, and a test drilling in the old McCrory near Branyon in Caldwell County blew out and was making considerable quantities of oil. The Rio Grande Valley has several wildcat tests of importance, and the completion of a well in La Blanca area and opening of a new gas field in Starr County headed developments in that area during the week. The lower coastal area, one of the most active sections in the state, apparently gained a new field as Wellington Oil Co. No. 1 Stockton in Nueces County was attempting completion.

A new producing horizon in the Pearsall field of Frio County was apparently discovered this week by the Amerada Petroleum Corp. The company's No. 8 Halff & Oppenheimer, located in the S. A. Ditch Survey No. 1,104, blew out in the Edwards lime during the week, making gas and some oil. The blowout came with cable tools in the hole, bottomed at 6,230 feet. Before it was closed in, the well made an estimated 6,000,000 to 10,000,000 feet of gas. No pressures were taken. After it was controlled, the flow was gauged at approximately 1,500,000 feet of gas, spraying 5 to 6 gallons per hour of distillate. The mud pits were reported covered with a light green crude with a gravity of about 38. Operators have yet to clean the hole of the cable and tools, and will kill the well.

Fourth Producing Zone

This discovery adds a fourth and deeper producing horizon to the Pearsall field. The Edwards lime was opened to gas production by Amerada in the No. 1 Doering several months ago, but this is the first appreciable show of oil in the formation. Wells in the field are now producing from the Navarro sand, the Buda lime and the Austin chalk.

Elsewhere in the Fault Line Zone, Whisenant & Trenchard opened flush production in the old McCrory or Webster field of Caldwell County, when the No. 1 McGee, located in the John McNeill Survey near the Branyon field. Top of the chalk was cored at 1,984 feet and the well was bottomed at 2,137 feet when it came in. Estimates placed the flow at 1,500 bbls. per day of 38 gravity pipe line oil. Casing was set at 2,000 feet in the well. Although drilled in proven territory, the well showed pressures and initial production of a very unusual nature, and the discovery will doubtless lead to considerable drilling in the area.

In the same county, a wildcat, Browne Drilling Co. No. 1 Blackwell located about 7 miles southwest of the town of Lockhart was completed in the Buda lime for an initial production of 40 bbls. per day. The test is in the John Row Survey.

In another section of the Fault Line, failure to find production in the Edwards lime was marked by the abandonment of Red Bank Oil Co. No. 1 Nellie Grann. The wildcat, drilled in the Santef grant in northwestern Burleson County had shows of oil in the Edwards, but failed to open commercial production. It was bottomed at 6,241 feet.

A gas and distillate producer, typical of the area, was brought in during the week, in the Engleman or La Blanca area of Hidalgo County, Lower Rio Grande Valley. The operator, Pantana Petroleum Co., set casing on bottom at 6,805 feet in the No. 1-B Engleman, located Lot 8, section 249. Casing was perforated at 6,660-83 feet and the well was brought in making an estimated 20 bbls. of distillate and 5,000,000 feet of gas on a one-quarter inch choke. A tubing pressure of 1,650 pounds was recorded.

The No. 1-B Engleman is located about 1½ miles southeast of the Pantana No. 1 Richard Harding, which blew out and cratered last fall. The Harding, which burned for several weeks, showed considerable oil at one time, recognizable by the black smoke, but later died down and now is practically dormant. In the same area, Pantana No. 1 McDougal is drilling below 7,900 feet on an 8,000-foot contract.

In the same county, the Sun Oil Co. is coring below 6,371 feet on the No. 1-A Sweeny, recently taken over from H. J. Porter. This wildcat, located about 5 miles southwest of Donna had a show of oil at 5,962-75 feet, and considerable leasing has resulted in surrounding acreage.

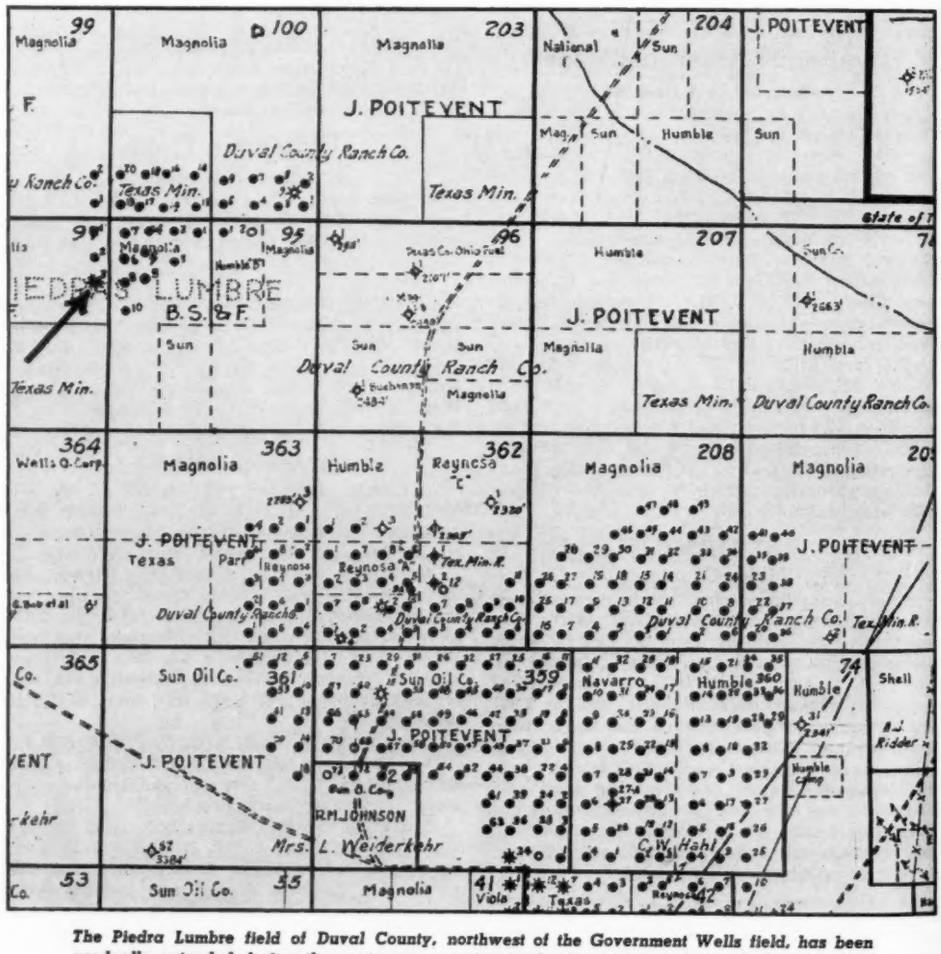
Starr County gained another shallow gas field as Howard L. Bass No. 1 Haden came in through perforations at 1,300-08 feet. Another Starr County test which is attracting attention is Davenport-Slick Urschel No. 1 Slick Estate, located in section 485. The wildcat cored sand with odor of oil and gas at 5,571-83 feet and is shut down with a fishing job.

Leasing in the Lower Valley was particularly active during the past week, as approximately 35,000 acres were taken in three counties. Sun Oil Co., Stanolind Oil & Gas Co. and other major oil companies closed deals involving leases in Cameron, Hidalgo and Starr counties.

Lower Coastal Area

Developments shown by the Wellington Oil Co. No. 1 Stockton featured the weeks activity in the Lower Coastal area. The wildcat, located about 12 miles southwest of Corpus Christi, in Nueces County, showed indications of opening gas production. The hole is bottomed at 7,005 feet. Casing was set at 6,250 feet and after testing salt water at 6,150-55 feet and 4,912-17 feet operators reperforated at 4,885-92 feet. The test flowed wash water and the pressure built up to 1,000 pounds on the tubing and 1,300 pounds on the shut in casing. After shutting in and then flowing on a one-eighth inch choke, the test flowed wash water

(Continued on Page 92)



The Piedra Lumbre field of Duval County, northwest of the Government Wells field, has been gradually extended during the past year, opening production in gas and oil. Recently a third production horizon was opened at 1,323 feet by Magnolia Petroleum No. 3 Duval County ranch in Survey 97. The well was completed as a gasser.—(Porter Regenold, Maps, Corpus Christi)

West and North Texas

By
L. E. BREDBERG

NEW POOL WEST OF O'BRIEN IS FIRST STRIKE OF THE YEAR

FORT WORTH, Tex., Jan. 11.—Severe cold weather and snow tied up many drilling rigs in the West Texas district in the past week, but 39 locations were staked for new tests and 44 tests were abandoned, six of which proved dry, starting the new year in a fashion presaging another extremely active year for the vast district, after 1936 was the busiest witnessed in the past seven or eight years, with 1937 expected to be even greater.

Ward County is the first county to get a new pool for the new year. Fields, Finley & Cherry No. 1 Sealey Estate, in section 54, Block F, G.M.M.B.&A. Survey, about 4 miles west of the O'Brien field, now looking good for a producer and a discovery for the northern part of Ward County. It was bottomed at 3,203 feet in lime, showing 200 feet of oil in the bottom of the hole before it was treated with 3,000 gallons of acid. Since treating, it has been swabbed, but the crew was not able to swab it down below 70 feet off bottom. It is estimated good for about 75 bbls. on the pump as it now stands, but another dose of acid may be poured to it in another attempt to increase its production.

About 2 miles southeast of this new potential discovery, the Magnolia Petroleum Co.'s seven-year-old producer in the E half of section 46, Block F, about 2 miles west of the O'Brien field, which was completed in December, 1930, making 51 bbls. the first 12 hours after shooting twice, was acidized and made 51 bbls. the first 14 hours and 50 bbls. the second 14 hours after cleaning out the acid. It had decreased to 4 bbls. of oil per day before resorting to acid, which brought its production back to about the same as when completed 7 years ago. As a result of this profitable treatment, other tests will no doubt be drilled in the vicinity of this oil producer, probably tying production in with the O'Brien field to the east.

Yoakum County

The Bennett pool in Yoakum County, opened over a year ago, is about to receive its second well, which is expected to extend the proven area about a half mile to the northwest of Cascade and others No. 1 Bennett discovery. Location is in section 678, John H. Gibson Survey, and last reports credit it with drilling at 5,150 feet in lime, showing free oil, about one-half bailer every four hours, from top pay at 5,090 feet. The test has been running about 25 feet higher structurally than the discovery well, which was completed at a plugged-back depth of 5,264 feet, making 234 bbls. of oil in 24 hours, after shooting. The Texas Pacific Coal & Oil Co., which farmed out the block to C. J. Davidson and others in the area for the drilling of the discovery well, is drilling this second test. There is no pipe-line outlet for this pool, oil from the lone producer being sold to a refinery at Lubbock and hauled there by trucks from the well. The pool will have to assume more importance before a pipe-line company can be expected to lay a line to it. The nearest line is about 35 miles to the south in Andrews County, Humble Pipe Line Co.'s line connecting with the Means field in that county.

Upton Extension

The Upton County extension of R. H. Henderson and others on the A. A. Reese ranch, in section 16, Block 3½, nearly 3 miles northeast of the nearest old producers in the McCamey area, was completed this week pumping 47 bbls. of oil and 5 bbls. of water in five hours, pumping off in that time. It did not make much of a producer itself, but proves up considerable more territory to this old area, which was long ago considered defined and in which drilling activities were practically nil from 1929 until 1935, when the advent of acid treatment of lime wells in West Texas proved extremely profitable, increasing the production of old and nearly depleted producers and newly completed wells. Acid was the prime cause of drilling activities being revived in this as well as other areas throughout the district, and has led to many pool extensions, proving up thousands of acres to production which might otherwise have never been proven.

Wildcat Locations

An extreme wildcat location for the district was staked by Grisham-Hunter, Inc., of Abilene, 2 miles west of Toyah in Reeves County. It is on the Montgomery tract in the W. C. King Survey, and will be a Delaware test. Several other tests have been drilled in this area to the northeast and east, and some oil was made by a couple of the tests, which, however, did not prove commercial producers.

Six miles east of the north end of the Keystone field, Winkler County, York & Harper and others are drilling a 5,000-foot test in the NW cor. of section 7, Block C, G.M.M.B.&A. Survey.

The Shell Petroleum Corp. is also drilling an interesting wildcat in Glasscock County. Same is located about 2 miles west of the McDowell pool, and is located in section 41, Block 34, Township 2s, T.&P. Survey. It is below 500 feet at this writing.

Gaines Wildcat

The wildcat of Stanolind Oil & Gas Co. on the Morrow lands, in section 20, Block A-24, about 4 miles northwest of a small pumper, which was the first producer in Gaines County, is at a critical depth. It was shut down to bail and test at total depth of 4,770 feet, after showing sulfur water at 4,756 feet, previously showing 90 feet of oil with 2,200 feet of drilling fluid when tested from 4,500-4,720 feet, coring the first saturated lime at 4,608 feet. Casing is to be cemented on top of the lime and a test made.

Sale

One of the largest sales made in the Abilene area, Jones County, for a long time, was reported when the Lewis Production Co. was named purchaser of a 320-acre lease south of the Sayles pool from Henry Sayles, Jr. Consideration was reported as $64,000. The Condor Petroleum Co. extended this field three-quarters of a mile south in the past week when it completed No. 1-B Sayles at a total depth of 1,955 feet, 5 feet in the pay, for an initial production of 325 bbls. It is in Block 20, T.&P. Survey.

The Guitar pool, east of Hawley, in Jones County, was defined on the east when Brown Eagle Oil Co. No. 1 W. A. Minter was plugged at a total depth of 2,175 feet after striking water. It is in the Robert Smith Survey. Another abandonment for that new area was that of L. H. Pearson on the Guitar lands. It was abandoned at a total depth of 2,201 feet. Elevation is 1,682 feet. It is located in section 23, Block 14, T.&P. Survey.

Acid treatment of the discovery well in the Guitar pool increased the potential of that lime well from an initial production of 108 bbls. per day to 316 bbls. It was completed in October, producing from a pay logged at 1,992-2,001 feet. Location is in section 44, Block 15, T.&P. Survey.

A wildcat test in Glasscock County was due for plugging this week after striking sulfur water at 2,689 feet. Total depth is 2,778 feet. This test, Fleetborn Oil Co. No. 1 Coulson, in section 19, Block 33, Township 3s, T.&P. Survey, is a little over 2 miles southwest of the Dodson and others' discovery in section 8.

North Texas

Carlisle, Turner and others No. 1 Knox, located about 12 miles northwest of Denton, in the northwestern part of Denton County, attracted attention of many operators this week when it showed for an estimated 10,000,000 feet, blowing out and showing some water with the gas. The test logged the gas sand from 1,951-53 feet, total depth. The operators are pulling 7-inch pipe set at around 1,480 feet to ream the hole and reset the pipe just above the gas sand preparatory to making a test.

The test is on the R. Howard Survey, apparently on the southwest flank of a large structural trend extending from the northwest where numerous fields are found in Cooke and Montague counties, and is appearing as the first discovery of any kind in Denton County. Dry holes flank the test 2 miles to the west and the same distance to the southeast, both being drilled below 2,500 feet, but not showing for producers, either oil or gas. It will be closely watched for results and is due to start a lease and royalty play in the sector, the greater part of which will no doubt be made by independents.

Deepest Test in North Texas

The Sinclair Prairie Oil Co. has abandoned the deepest test ever drilled in the North Texas district, its No. 1 A. C. McCall, in the W. H. White Survey, in northern Cooke County. It was given up as dry at a total depth of 8,331 feet in the Ordovician.

Big Gasser

Eppenauer Drilling Co. No. 1 Eddleman Brothers, in T.&N.O. Survey, about 4 miles east of Graham in Young County, has had operators discussing it for the past two weeks. It showed for a heavy gasser from the Marble Falls lime at total depth of 4,243 feet. It made 250 bbls. of 68 gravity distillate and 16,000,000 feet of gas daily on a production test, opening another producing pool in the Graham area. Back pressure built up to such an extent that a true gas gauge could not be taken, consequently the gas potential is considered double the amount gauged. Tubing is to be snubbed in in the hole preparatory to completing, setting a packer, if possible, in the hope that the well will convert itself into an oil well by shutting off part of the gas sand which was logged at 4,209-14 feet.

The Rathke Oil Co. and others are drilling No. 2 C. W. Johnson, in the H. F. Young Survey, 1 mile southwest of the Eppenauer strike. The nearest Marble Falls production is about 8 miles to the southwest in the South Bend pool. The Gratex refinery north of Graham is taking the distillate output of the well.

Grayson Location

Location has been staked for a 3,000-foot wildcat on the A. M. Smith farm, 1 mile south of Luella and 7 miles northwest of Tom Bean, in Grayson County. Grant Colby of Gladewater assembled a 2,500-acre block in this area for the test.

The Texas-Canadian Development Co., Inc., which has just completed a "duster" on the

Leaverett Estate in Wise County, at a total depth of 3,500 feet, has staked location for another 3,500-foot test for the county. Same is on the L. W. Still 125-acre tract in the Isham Epps Survey. The Leaverett test was located in Block 19, Smith County School Lands, 5 miles northeast of Rhome.

CENTRAL TEXAS COMPLETIONS

Eastland County

Ashburn & Luke No. 1 Scott, 7½ miles southeast of Ranger, sandy lime 3,010-60 feet, total depth 3,118 feet, 25 bbls. Ray T. Hoff No. 1 Brashears, 5½ miles southeast of Eastland, 1,472 feet, dry and abandoned. States Oil Corp. No. 5 Henderson, sand 2,074-93 feet, 7,000,000 feet of gas.

Hamilton County

Walter Gant No. 1 Drake, 5 miles south of Hamilton, top Ellenburger 3,802 feet, dry and abandoned 3,838 feet.

Shackelford County

Humble Oil & Refining Co. No. 1 Newell, 5 miles west of Albany, 1,425 feet, dry and abandoned. N. H. Martin & Son and others No. 1 Davis, sand 1,706-16 feet, 290 bbls. Roeser & Pendleton No. 9-191 Morris, 1,613 feet, dry and abandoned. Root & Rhodes No. 4 Dawson & Conway, 1,675 feet, dry and abandoned.

Throckmorton County

Gibson & Jennings, Inc., No. 1 Edsall, 1,512 feet, dry and abandoned.

WEST TEXAS COMPLETIONS

Andrews County

Humble Oil & Refining Co. No. 12 Means, 4,500-30 feet, acidized, 884 bbls.

Crane County

Texas Co. No. 27 King, 2,308-2,506 feet, 181 bbls. Choate and others No. 1 Hughes, temporarily abandoned 2,153 feet. J. M. Rush No. 1 Hughes, 2,278 feet, 497 bbls. Gulf Oil Corp. No. 3 Tubbs, 4,291-4,350 feet, 394 bbls. Navarro Oil Co. No. 1 Dawson, dry and abandoned 2,603 feet, elevation 2,429 feet.

Ector County

Shasta Oil Co. No. 1 Scharbauer, 4,132-4,202 feet, acidized, 1,627 feet. Amerada and others No. 2 Holt, 4,150-4,302 feet, 477 bbls. Texas Pacific Coal & Oil Co. No. 1 Scharbauer, 4,120-4,215 feet, acidized, 1,674 bbls.

Howard County

Superior Oil Co. No. 33-B Roberts, 2,976 feet, 58 bbls. Holman No. 3 Kloh, 2,300 feet, 688 bbls. Sinclair Prairie Oil Co. No. 46 Dodge, 2,522-2,770 feet, shot, 600 bbls.

Jones County

Sinclair Prairie Oil Co. No. 2-B King, 2,216-25 feet, acidized, 632 bbls. in 13 hours. Merry Brothers and Perini No. 2 White, 2,329-37 feet, acidized, 64 bbls. per day, 7 per cent water. Condor Petroleum Corp. No. 1-B Sayles, 1,950-55 feet, 325 bbls. L. H. Pearson No. 1 Guitar, dry and abandoned 2,201 feet, elevation 1,682 feet. Texas-Oklahoma Oil & Development Co. No. 1 Duke, dry and abandoned 2,504 feet. Ungren and Frazier No. 1 Prothero, dry and abandoned 2,050 feet.

Pecos County

Marion Oil & Gas Co. No. 1 Southern Life Insurance Co., dry and abandoned 1,425 feet. Trans-Texas Oil Co. No. 2 Caldwell, dry and abandoned 1,374 feet.

Upton County

Perry No. 3 Sherk, 2,235-2,320 feet, 663 bbls. Smith and Cravens No. 7 Reese, 2,438-44 feet, acidized, 907 bbls. Texas Pacific Coal & Oil Co. No. 5 Reese, 2,485-2,612 feet, acidized, 221 bbls.

Ward County

Lindsay and Bolin No. 3 Stewart, 2,405-2,520 feet, 49 bbls. Mid-Continent Petroleum Corp. No. 5 Potts, 2,255-2,410 feet, shot, 52 bbls. Gulf Oil Corp. No. 8 Estes, 2,545-2,942 feet, shot, 718 bbls.; No. 54 Hutchins, 2,605-2,791 feet, shot, 190 bbls. oil and 60 bbls. water, plugged back to 2,754 feet; No. 57 Hutchins, 2,610-3,090 feet, shot, 190 bbls. Empire Gas & Fuel Co. No. 16 McDonald, 2,224-2,460 feet, shot, 1,205 bbls. Eppenauer Drilling Co. No. 3 University, 2,543-2,770 feet, shot, 1,475 bbls. Humble Oil & Refining Co. No. 6-F University, 2,472-2,752 feet, shot, 1,077 bbls.

Winkler County

Phillips Petroleum Co. No. 2 Cowden, 2,768-2,823 feet, shot, 195 bbls. Illinois Oil Co. No. 6-B Central State Bank of Abilene, 2,860-3,130 feet, shot, 1,972 bbls.; No. 7-A McCutcheon, 2,825-2,975 feet, 1,152 bbls. Bert Fields No. 3 Clapp, 2,736-3,107 feet, 936 bbls.; No. 1-D Pure-Cowden, 2,836-3,100 feet, shot, 277 bbls. through three-quarters inch choke. Magnolia Petroleum Co. No. 6 Colby, 3,033-3,144 feet, shot, 455 bbls.; No. 48 Walton, 2,825-2,977 feet, shot, 445 bbls.; No. 49 Walton, 2,845-2,975 feet, shot, 530 bbls. Atlantic Refining Co. No. 3 Hutchins, 2,929-3,040 feet, shot, 40,000,000 feet gas. Siosi Oil Co. No. 5 Lovett, 2,775-3,138 feet, shot, 475 bbls. Humble Oil & Refining Co. No. 19 Howe, 2,800-3,008 feet, shot, 1,454 bbls.; No. 9-C Walton, 3,040-85 feet, 1,148 feet. Emperor Oil Co. and others No. 1 Estell-Halley, 2,758-2,879 feet, 1,000 bbls. Sinclair Prairie Oil Co. No. 7-A Lack, 3,076-86 feet, 1,645 bbls.

PANHANDLE COMPLETIONS

Carson County

Sinclair Prairie Oil Co. No. 4 Cooper, 3,020-95 feet, shot, 351 bbls. on pump. Skelly Oil Co. No. 82 Schafer, 2,960-3,085 feet, shot, 802 bbls.

Gray County

Empire Gas & Fuel Co. No. 3-B Hughey, 3,230-96 feet, shot, 417 bbls. on pump. Kewanee Oil & Gas Co. No. 6-D Morse, 2,425-2,538 feet, shot, 286 bbls. on pump.

Hutchinson County

Gulf Oil Corp. No. 64 Dial, 2,990-2,082 feet, shot, 245 bbls. on pump; No. 65 Dial, 2,935-3,035 feet, shot, 290 bbls. on pump. Huber Petroleum Corp. No. 3 Herring, 2,755-2,840 feet, shot, 14,000,000 feet of gas; No. 2 Riemer, 2,612-2,805 feet, shot, 10,725,000 feet of gas. Stanolind Oil & Gas Co. No. 2 Haile, 2,978-3,043 feet, shot, 471 bbls. on pump; No. 8 Moore, 3,025-3,125 feet, shot, 415 bbls. on pump. Stekoll Oil Producer No. 4 Wisdom, 3,050-3,120 feet, shot, 416 bbls. on pump.

Moore County

Phillips Petroleum Co. No. 1 Blank, 2,902-3,408 feet, plugged back to 3,170 feet, 39,530,000 feet of gas. Rubin and others No. 1 Beaird, 2,784-3,382 feet, plugged back to 3,070 feet, shot, 28,211,000 feet of gas.

NORTH TEXAS COMPLETIONS

Archer County

L. T. Burns No. 1 J. S. Bridwell A, 816-42 feet, 20 bbls.; No. 2 J. S. Bridwell A, 837-42 feet, 25 bbls. Clark & Mayfield No. 1 Miller, 2,382 feet, dry. H. B. Dudley and others No. 1 Garvey, 754 feet, dry. R. O. Harvey, Jr. No. 1 Kinder, 1,293-1,308½ feet, 25 bbls. Luther Hedrick No. 1 Mrs. P. Morgan, 1,077 feet, dry. O'Donohoe-Gibson No. 1 Perkins, 1,650 feet, dry. Peery, Woody & Young No. 1 Duckworth, 1,396-1,404 feet, 35 bbls. Wilson & Ligon No. 1 Pearston, 2,805 feet, dry.

Collin County

California Consolidated Oil Co. No. 1 Fagg, 3,514 feet, dry.

Cooke County

A. A. Landers and others No. 1 Mann, 1,939 feet, dry. Sinclair Prairie No. 2 A. C. McCall, 8,331 feet, dry.

Jack County

F. K. Bennett No. 1 Nichols, 3,005 feet, dry. Deep Oil Development Co. No. 1 Bridwell, 2,999-3,055 feet, 200 bbls. T. D. Humphrey No. 5 Bridwell, 2,970-3,020 feet, 500 bbls. Iron Mountain Oil Co. No. 1 Kuykendall, 2,304-12 feet, 200 bbls. Josaline Production Co. No. 3 Eatherly, 2,957-3,014 feet, 405 bbls.

Throckmorton County

Canyon Oil & Gas Co. No. 2 Lilly, 339-50 feet, 250,000 feet gas; No. 1 Wright, 345-60 feet, 250,000 feet gas. Gibson & Jennings, Inc. No. 1 Edsall, 1,511 feet, dry.

Wichita County

A. E. Blair No. 1 M. Cody, 1,893 feet, dry. Box & Seaberry No. 1 Krizan, 862 feet, dry. L. T. Burns No. 3 Goetze, 828 feet, dry. King Oil Co. No. 1 W. T. Waggoner R, 1,414-32 feet, 40 bbls. Oil Exploration Co. No. 2 Gibson, 1,892-1,929 feet, 60 bbls. W. B. Omohundro No. 8 Gibson A, 2,015-35 feet, 45 bbls. George Proctor No. 3 Foster A, 1,150 feet, dry. Waggoner Refining Co. No. 8 Waggoner X, 1,957-68 feet, 15 bbls.

Wilbarger County

Baker & Camp No. 16 Waggoner B, 1,871-90 feet, 10 bbls. King Oil Co. No. 6 Waggoner N, 1,532-43 feet, 37 bbls. Lawson & Leavell No. 10 Waggoner A, 1,632-45 feet, 50 bbls. H. W. Roberts No. 5 Waggoner, 1,190-1,209 feet, 10 bbls. W. T. Waggoner Estate No. 3 Waggoner CC, 1,098-1,110 feet, 45 bbls.

Young County

Bohner & Gilmore No. 6 Prideaux, 568-71 feet, 10 bbls. Eppenhauer and others No. 1 Eddleman Brothers, 4,209-25 feet, 500 bbls. Fresno Oil Co. No. 10 Cox, 528-89 feet, 2 bbls. F. Moss Trustee No. 1 Stewart, 582 feet, dry. Nash & Windfohr No. 23 Graham-Vick, 2,606-16 feet, 80 bbls.; No. 1 Lowery, 4,140 feet, dry. Petroleum Production Co. No. 7 Luton, 663-73 feet, 3 bbls. C. C. Robertson No. 3 Hardy, 727 feet, dry. Schmitt Brothers No. 8 Andrews, 905 feet, dry. Solo Oil Co. No. 12 Stowe, 1,084 feet, dry. Stuckey and others No. 1 Jeffery, 836 feet, dry. Wise & Jackson No. 16 Cullers, 590-603 feet, 7 bbls. Wootten & Wilson No. 5 Scott, 753-55 feet, 15 bbls. Worth Oil Co. No. 15 Dean, 521-40 feet, 20 bbls.

Southwest Texas Fields

(Continued from Page 90)

mud and gas. It may be killed and reperforated higher. The test, while drilling, encountered several sands showing oil or gas.

In the Saxet field, drilling continued to the deep 6,300-foot sand and one test was on the newly opened 6,700-foot horizon. Two completions were made in the 6,300-foot horizon, and other wells were brought in producing from the 5,800-foot Frio, and the 4,400-foot Clarkwood sands. Conservative Oil Co. is drilling to the 6,700-foot sand in No. 4-B Morgan. Phillips Petroleum Co. No. 4 Morgan is on the sand at 6,740 feet preparing to perforate for a production test. The discovery well of the new sand, Hiawatha Oil Co. No. 6 Griffith was making at latest reports, 175 bbls. of pipe line oil per day through a one-eighth inch choke.

Two directional wells are drilling in Nueces County. One, located south of the Saxet field, offsetting the Bryant-Howell No. 1 Kocurek is drilling below 3,000 feet. It is being drilled to kill the wild well, which is now slightly active after cratering. In the Agua Dulce area, Texon Drilling Co. is below 2,000 feet on the 2-B Sevier, directional test being drilled to kill No. 2, which recently became active again and ignited.

In the Clara Driscoll field of Nueces County one new producer was completed during the week by Mid-Continent Petroleum Corp. and other tests were drilling. Blanco Oil Co. & Buchanan No. 1 Gandy, east offset to the Hines No. 1-A Phillips which showed gas and distillate at 4,800 feet is drilling below 5,990 feet after coring several sands which had shows. The Wellington Oil Co. No. 1-A Sevier is perforating to test sand at 5,422-27 feet, and the same operator's No. 9 Sevier is set on sand at 3,793-3,802 feet. Located 4 miles southeast of Driscoll townsite, south of the Clara Driscoll field, Renwar Oil Corp. No. 1 Willoughby was abandoned at 6,002 feet without having encountered any shows.

In the Laredo district drilling activity showed gains both in wildcat and proven field locations, but no discoveries of importance were made during the week. The Hoffman field received a setback when Bridwell Oil Co. and Gorman Yoakam Drilling Co. No. 1 Martinez, an offset to a recent eastward extension, was abandoned dry in sand at 2,796-2,802 feet.

California Field Report

INCREASED FIELD ACTIVITY ASSURED IN NEW OIL AREA

By
L. P. STOCKMAN

LOS ANGELES, Calif., Jan. 11.—Drilling operations in California, which continued at a high rate during the greater part of 1936, are expected to show a substantial increase during 1937. Operators will maintain an aggressive development campaign in the El Segundo, Wilmington, Santa Maria Valley, Ten Section and Greeley fields, all of which are in the ascendancy. In addition to these new fields now being exploited, there is a possibility that deep drilling in several existing fields may result in the discovery of new deep virgin zones. Practically all fields in Los Angeles Basin, with the exception of Playa Del Rey, Torrance, El Segundo and other fields located around the rim, are susceptible to deep drilling. Deep tests are already under way in the Santa Fe Springs and Richfield districts and it appears quite probable that similar exploratory work will be undertaken in the Long Beach, Rosecrans and Seal Beach fields before 1937 draws to a close. Union Oil Co. and Shell Oil Co. have been progressively reaching greater depths in the Dominguez field of Los Angeles Basin for the past several years and as a consequence have proved up the existence of eight productive horizons. Wildcatting will continue in search of new reserves.

Potential Oil Field

Barnsdall Oil Co. is expected to prove up the existence of a new oil field in the Newhall district in southern California within the next week or 10 days as 55 feet of well-saturated oil sand has been cored in No. 1 San Francisco, a wildcat in section 26-3-17. This well is bottomed in oil sand at 6,215 feet and a string of 8⅝-inch casing has been landed at 6,160 feet preparatory to an immediate production test. The oil sand is of Miocene age, which has proven exceptionally productive in other Los Angeles Basin fields. Barnsdall has approximately 4,250 acres under lease in the Newhall district.

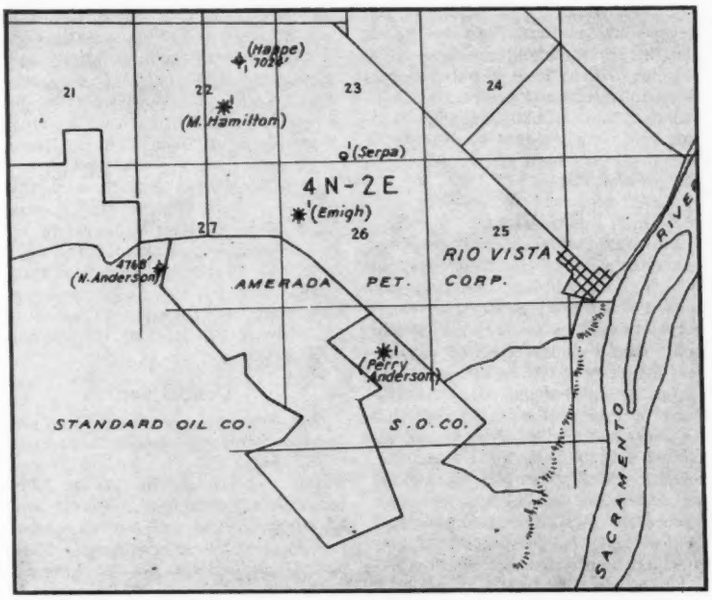
Associated Oil Co. is working on an interesting wildcat in the Avenal district of Kings County and it may be possible that the company will succeed in developing commercial production. Approximately 129 feet of silty oil sand has been logged in No. 2 Avenal between 900 feet and present bottom, 1,029 feet. This wildcat tested wet and the 11¾-inch casing has been recemented with 200 sacks of cement. Associated Oil Co. has drilled two tests in the Avenal section of Kings County up to the present time and both wells logged oil sand. No. 1 Avenal, after a conclusive production test, was abandoned some time ago as unproductive, but the showings found resulted in the decision of the company to proceed with additional exploration in the immediate area. No. 2 Avenal is located in section 35-23-17 and the outcome of work will be watched with considerable interest as this area has not been generally considered as offering unusual promise.

Wasco

In the Wasco district of Kern County, Continental Oil Co. No. 1-A Kern County Land, in section 8-27-24, staged a short premature blowout at 7,169 feet. The activity was due to gas as the log does not reveal any oil showings. The company resumed drilling and is rotating ahead at 7,234 feet. The showing greatly stimulated leasing activities and several seismograph parties are working in the district. Judging by the kick shown by Continental No. 1-A Kern County Land, it would appear that the company has discovered an accumulation of natural gas which may have commercial possibilities.

In the Arvin district of Kern County, General Petroleum is scraping out the hole preparatory to an early production test in No. 1 Arvin, located in section 26-31-29. This wildcat has been bottomed at 7,462 feet and it is the intention to run in a liner within the next few days. Several miles northwest Shell Oil Co. has suspended drilling operations on No. 1 Greer, in section 15-31-29, at 6,171 feet, but Mohawk Petroleum Co. will proceed with further work as No. 3 Earl Fruit, in section 4-31-29, is being rigged up.

Reserve Oil & Gas Co., which has been prospecting in the Tejon district in the extreme southern end of the San Joaquin Basin for more than a year, has cored 27 feet of oil sand in No. 33-3 at 4,404-31 feet. This well appears to correlate approximately 60 feet higher than No. 33-2, which is at present standing suspended at 4,490 feet. Reserve Oil & Gas Co. has drilled three wells in the Tejon district up to the present time and has logged an oil sand in all three projects. The company has approximately 5,000 acres under lease and the showings, despite the inability to result in commercial production, have been too good to permit cessation of work. Officials of the company have shown a commendable persistency and this may ultimately be productive of satisfactory results. In section 12-10-19, several miles removed from operations of the Reserve Oil & Gas Co., Hall-Baker Co. has abandoned No. 1-10 Tejon as a duster at 2,639 feet. Ohio Oil Co. is rotating ahead at 6,285 feet in its second Tejon wildcat, in section 21-11-19, but has not yet encountered any showings of unusual importance.



Amerada Petroleum Co. has extended proven limits of production in Rio Vista gas field by completing No. 1 Hamilton in section 22-4-2

Greeley

Standard Oil Co., discoverer of the Greeley field of Kern County, has staked three locations on Kern County Land Co. property and plans call for early work. The new locations are No. 11-2 in section 20-29-26, No. 12-1 in section 30-29-26 and No. 14-1 in section 4-30-26. The Standard made a three-day potential test on No. 11-1 Kern County Land, the discovery well, and this removed any doubt as to the well's ability to show large sustained production. During the first 24-hour test, the well produced 2,657 bbls. of crude oil and 2,336,000 feet of gas, and during the second 24-hour test flowed 2,450 bbls. of crude oil and 2,091,000 feet of gas. During the third day, No. 11-1 Kern County Land produced 2,350 bbls. of clean 36.7 gravity oil and 2,100,000 feet of gas. A 96/64-inch bean was used during the test. Signal Oil & Gas Co. has staked location for a wildcat to be drilled in section 6-30-27, about 6 miles southeast of Standard's discovery well in the Greeley field. In section 30-29-25, Associated Oil Co. is cleaning out No. 1 K.C.L. in the Rio Bravo district following the landing and cementing of a string of 8⅝-inch casing at 7,358 feet.

Ten Section

Shell Oil Co. is expected to complete its third well in the Ten Section field of Kern County within the next fortnight, as No. 34 Kern County Land, in section 29-30-26, secured a satisfactory water shutoff on the 9⅝-inch water string landed at 7,815 feet. The company conducted a formation test a few days ago while testing the shutoff on the 9⅝-inch and with the tester open 14 minutes the well flowed at the rate of 7,500,000 feet of gas along with some light-gravity oil. Following approval of the water shutoff by the State Mining Bureau, Shell's field department immediately started preparations to drill the well in. During the early part of the week, the company spudded in No. 78 Kern County Land in section 30-30-26 and landed a string of 13⅜-inch casing at 1,069 feet. Standard Oil Co.'s outpost in the Ten Section field, No. 9-1 Kern County Land, in section 34-30-26, has been stopped at 8,915 feet and the hole plugged back to 8,204 feet. Tentative plans call for the landing of 9-inch casing preparatory to testing some upper showings logged at 8,170-90 feet. Superior Oil Co. No. 8 Kern County Land, in section 11-30-26, has reached a depth of 9,386 feet but has not yet logged any indications of outstanding importance.

El Segundo

The El Segundo field of Los Angeles Basin is showing a substantial increase in drilling and indications point to a further gain in activity within 30 days. Heavy rains the past 15 days slowed up work but operators have started to make up for lost time. The section of the El Segundo field now undergoing development is retarded several days following a heavy rain. Operators are surmounting this difficulty by constructing roadways and well sites of gravel and decomposed granite. In this respect the El Segundo field presents a situ-

ation somewhat similar to that encountered in the lowland section of the Playa Del Rey field. Operators developing acreage in the El Segundo field are favored with excellent paved highways around the district and are only obliged to construct gravel roads from the highway to each well site. The Texas Co., which has just spudded in No. 2-1 Johnson, has staked location for a new well to be drilled on the Security lease in the western part of the field. No. 1 Security is located approximately 1,000 feet southwest of the Republic Petroleum Co.'s discovery well. The latter company has resumed drilling No. 3 El Segundo after landing a string of 11¾-inch casing at 1,020 feet. Republic Petroleum, upon the conclusion of additional financing, will start two new strings of tools on the El Segundo lease in this field. Ohio Oil Co. No. 2 Gough should be the next completion in the El Segundo field as the bit in this hole has just passed the 5,100-foot level. Caminol Co., Ltd., has just landed surface pipe in its No. 1 El Segundo and has a derrick going up in the center of section 18-3-14 for No. 2 El Segundo. Richfield Oil Co., which has resumed drilling operations in No. 2 El Segundo after landing 11¾-inch surface pipe at 1,062 feet and is moving in rotary drilling equipment to begin drilling operations on No. 4 El Segundo. Union Oil Co. has started rig construction for its first well to be drilled on the Security lease, which adjoins Richfield Oil Corp.'s El Segundo property on the south.

Wilmington

The Wilmington district, immediately adjacent to the Long Beach ship channel, is expected to press the El Segundo field for drilling honors during the next six months as plans have already been formulated for an aggressive program. New wells scheduled to get under way in the Wilmington district in the immediate future include Bankline Oil Co. No. 22 Pacific Terminal at Anaheim and Preble Avenue and No. 1 Watson at Grant and Vreeland, Elliott & Marshall No. 1 Ira at Lecouvereur and D Streets, George F. Getty No. 2 Watson at Flint and F Streets and Petroleum Marketing Corp. No. 1 Wilmington. Recent spuds include George F. Getty No. 1 Watson, Gilmore Oil Co. No. 1 Jaite and General Petroleum Corp. No. 2 Terminal. George F. Getty No. 1 Watson, bottomed at 2,495 feet, is scheduled to be given an early production test, as the pay was encountered at 2,476 feet. Correlation work indicates that Getty's initial test in this field is approximately 30 feet higher structurally than General Petroleum Corp. No. 1 Patton and approximately 68 feet higher than Royalty Service Corp. No. 1 Community, which has been bottomed at 2,544 feet. The Union Pacific Railroad has decided to drill one well on its extensive holdings in the Wilmington district and then open bids for a lease. The company has accordingly awarded a drilling contract to the Hall-Baker Co. and plans are already under way to start active work close to the General Petroleum's Terminal lease. The Ford Motor Co. has not yet leased its acreage for development notwithstanding the fact that large cash bonuses have been offered. The limits of production in the Wilmington field have not been determined, although there appears to be a rather pronounced unconformity in subsurface conditions due probably to the existence of a fault which has not yet been located, but which is evidenced by the unusually large variation in gravity of oil produced. Subsequent drilling is expected to reveal a definite break between the Wilmington field and the so-called Watson area, where small production of heavy oil has been developed up to the present time.

TANKER SHIPMENTS FROM LOS ANGELES TO DOMESTIC AND FOREIGN PORTS

	December 31		December 20			
	Total	Daily	Total	Daily	This year	Same time
Intercoastal-domestic:	this week	average	last week	average	to date	last year
Diesel and gas oil	174,664	15,879	.....	.....	406,090	864,272
Gasoline	32,368	2,943	.....	.....	5,525,864	7,071,873
Kerosene	2,027	184	.....	.....	1,130,406	911,502
Foreign exports:						
Crude oil	566,931	51,539	469,904	67,129	9,830,187	12,617,847
Fuel oil	743,207	67,564	313,519	44,788	11,353,818	12,512,736
Diesel and gas oil	201,944	18,359	.....	.....	5,714,634	3,653,243
Gasoline	356,091	32,372	288,942	41,277	8,163,751	7,089,502
Kerosene	85,149	7,741	39,191	5,599	1,585,669	1,264,846
Asphalt	.....	.....	.....	.....	.....	5,758
Other unfinished oil	.....	.....	111,176	15,882	325,388	140,384
Coastwise-domestic:						
Crude oil	64,911	5,901	64,372	9,196	7,680,372	6,884,889
Fuel oil	294,320	26,756	439,293	62,756	11,147,114	9,146,595
Diesel and gas oil	58,368	5,306	2,813	402	1,173,006	1,151,172
Gasoline	387,787	35,253	275,414	39,345	13,103,558	11,961,794
Kerosene	4,706	428	.....	.....	173,768	179,687

TANKER SHIPMENTS FROM SAN FRANCISCO TO DOMESTIC AND FOREIGN PORTS

Intercoastal-domestic:						
Diesel and gas oil	.....	.....	.....	.....	218,603	158,152
Gasoline	.....	.....	.....	.....	285,959	.....
Kerosene	.....	.....	.....	.....	.....	205,999
Asphalt	.....	.....	.....	.....	327,418	485,105
Lubricants	.....	.....	.....	.....	47,560	64,512
Foreign exports:						
Crude oil	98,445	8,950	138,740	19,820	3,510,200	2,870,090
Fuel oil	.....	.....	.....	.....	2,390,295	2,373,985
Diesel and gas oil	104,794	9,527	100,441	14,349	2,131,563	1,063,676
Gasoline	45,474	4,134	70,645	10,092	3,798,685	2,986,349
Kerosene	81,431	7,403	4,683	669	791,660	721,428
Lubricants	17,871	1,625	38,202	5,457	420,638	209,823
Asphalt	.....	.....	9,147	1,307	9,147	.....
Other unfinished oil	.....	.....	.....	.....	90,923	.....
Coastwise-domestic:						
Fuel oil	.....	.....	200,518	28,645	6,342,786	7,183,297
Diesel and gas oil	.....	.....	.....	.....	646,056	298,884
Gasoline	52,787	4,799	136,429	19,490	5,457,733	4,516,484
Kerosene	.....	.....	.....	.....	203,744	138,382

Rio Vista

Amerada Petroleum Co. completed two new wells in the Rio Vista gas field of Solano County and both registered substantial production. No. 1 Serpa, in section 23-4-2, was brought in flowing 40,000,000 feet of dry gas per day from 4,476 feet. Top of the Emigh productive zone was encountered in this well at 4,370 feet and a string of 7-inch was landed and cemented at 4,300 feet. No. 1 Hamilton, in section 26-4-2, was completed flowing 44,000,000 feet of gas per day from 4,302 feet after the hole had been plugged back from 6,791 feet, to which depth the hole was drilled in an endeavor to find a deeper productive horizon. Amerada has staked location for No. 1 Drouin, which will be drilled about 3,500 feet east of No. 1 Emigh. This new well will be started as soon as the ground crew can get in through the rain soaked soil. Standard Oil Co. has completed No. 2 United in the western end of the Lost Hills field of Kern County, and this new well was brought in pumping 184 bbls. of relatively clean 14.5 gravity oil per day from 1,592 feet. In the North Belridge field Union Oil Co. has recompleted No. 20 Belridge flowing 198 bbls. of clean 35.4 gravity oil per day from 8,445 feet. This well had been redrilled and deepened to 8,510 feet but was plugged back to the completion depth because of the failure of the well to show commercial production at the deeper depth.

The Kettleman North Dome Association's field department had a busy week during the past seven-day period as Kenda successfully completed two new wells both of which registered substantial production. No. 52-34-J, in section 34-21-17, was brought in flowing 3,850 bbls. of exceptionally clean 35.7 gravity oil per day from 7,919 feet. In addition to the oil produced the well is making 1,600,000 feet of gas daily. No. 72-34-J, in the same section, showed an initial daily production of 2,250 bbls. of clean 36.4 gravity oil and 1,050,000 feet of gas from 8,150 feet. Up in the Mountain View field of Kern County Hogan Petroleum Co. has finished No. 2 Peters in section 5-31-29, and this new well was brought in flowing 1,388 bbls. of clean 30.5 gravity oil and 601,000 feet of gas per day from 6,168 feet. In the Fruitvale field, California Star Oil Co. No. 2 Moore, a new well, was brought in pumping 162 bbls. of 22.1 gravity oil per day from 4,055 feet.

Dominguez

One new well and three recompletions were recorded in the Dominguez field. Shell Oil Co. No. 87 Reyes, which was brought in flowing 3,024 bbls. of clean 33.5 gravity oil and 1,800,000 feet of gas per day from the eighth Callender zone at 7,713 feet. Union Oil Co. No. 42 Hellman, another completion in the eighth Callender zone, was brought in flowing 970 bbls. of clean 32.9 gravity oil per day from 7,593 feet. This well, a former upper zone producer, was redrilled to this new and highly productive zone. No. 38 Callender of the Union Oil Co. was returned to production after the hole had been plugged back to 5,340 feet and the well was brought in pumping 162 bbls. per day. Shell Oil Co. recompletion during the week was No. 47 Reyes, which was recompleted on a compressor doing 40 bbls. per day from 5,485 feet. Union No. 42 Callender, finished last week, has shown a substantial increase in production and is at present flowing 3,050 bbls. of clean 34.8 gravity oil. In the Playa Del Rey field Union Oil Co. successfully completed an exceptionally large well when No. 15 Del Rey was brought in flowing 1,130 bbls. of clean 25.1 gravity oil and 2,400,000 feet of gas per day from 6,035 feet.

Huntington Beach

Three new wells were finished in the Huntington Beach field. Petroleum Co.'s No. 4 Wilson was brought in pumping 440 bbls. of clean 24.5 gravity oil daily from 3,944 feet and H. S. Kohlbush completed No. 1 H. B. pumping 168 bbls. per day from 4,888 feet. W. C. W. Drilling Co. No. 2 Huntington proved good for 237 bbls. of relatively clean 24.7 gravity oil from 4,290 feet after the hole had been plugged back to the completion depth.

The Texas Co. and Shell Oil Co. each recompleted a well in the Long Beach field during the week. The former's No. 1 Flowerstate was returned to production pumping 261 bbls. of clean 25.8 gravity oil per day from 4,800 feet and Shell No. 2 Cresson was returned to production pumping 62 bbls. per day from 5,000 feet. Both of these wells were originally finished during the early life of the field back in 1922.

Ventura Avenue

Associated Oil Co. has reached a depth of 10,296 feet in No. 12 McGonigle in the Ventura Avenue field and with about 10,500 feet as the objective drilling operations should be concluded in another fortnight if no mechanical trouble develops. Associated No. 131 Lloyd, finished early in the week, was brought in flowing 1,640 bbls. of clean 36.4 gravity oil and 700,000 feet of gas per day from 9,846 feet. This rejuvenated well was originally completed in the upper zone before being carried down to the 57 zone from which it is now producing. In the Kern River field, drilling operations resulted in the completion of four new wells during the week. Bishop Oil Co. No. 9 Fano was good for 120 bbls. of clean 15.1 gravity oil per day from 2,072 feet and California Star Oil Co. No. 7-40 showed an initial daily production of 74 bbls. per day from 2,621 feet. E. B. Milburn No. 1 Kern was finished pumping 141 bbls. of 14.8 gravity oil upon completion at 2,210 feet and Italo Petroleum No. 35 Cauley was good for 71 bbls. per day from 2,848 feet.

In the Midway-Sunset field of Kern County Chanslor Canfield Midway Oil Co. No. 24-21 in section 21-32-23 was brought in on the beam pumping 124 bbls. of 15.9 gravity oil per day from 2,700 feet after the hole had been finished with a 6⅝-inch liner carrying 500 feet of perforated. The output is still showing a rather large water cut. Associated Oil Co. No. 61-A Midway, in section 35-31-22, was good for only 12 bbls. per day on the beam from 1,000 feet. The Texas Co. No. 17 Midway, in section 32-32-24, was brought in on the beam doing 103 bbls. of 18.1 gravity oil daily from 3,101 feet.

Geologists Elect

At the annual meeting of the Tulsa Geological Society Frederick A. Bush, chief geologist, Sinclair Prairie Oil Co., was elected president to succeed Richard A. Rutledge, Skelly Oil Co. R. J. Riggs, consulting geologist, Stanolind Oil & Gas Co., was named first vice president; C. O. Carlson, consultant, second vice president and Clark Millison, consulting geologist, secretary-treasurer.

C. G. Strahan, Gulf Oil Corp., is editor of this year's Digest containing abstracts of papers presented before the society meetings. All officers will assume their new duties at the next meeting, January 18.

Canadian Fields

Completions and Operations in Northwest and in Ontario

By VICTOR LAURISTON

CHATHAM, Ontario, Jan. 9.—A preliminary estimate of Canada's mineral production for 1936, by the Dominion Bureau of Statistics, places the petroleum output from all Canadian fields at 1,495,000 bbls. (an average of 4,085 bbls. per day) valued at $3,608,000, an increase of 3 per cent over the 1935 total of 1,446,620 bbls. valued at $3,492,188. The natural gas production for 1936 is given as 25,806,000,000 feet valued at $9,808,000, a gain of 4 per cent in quantity and 5 per cent in value over the 1935 total of 24,910,786,000 valued at $9,363,141.

Alberta Production

Oil production in November from Alberta wells was 113,794 bbls. compared with 120,638 bbls. in October. Turner Valley limestone production dropped from 116,672 to 110,207 bbls., and other Turner Valley production from 964 to 949 bbls. Red Coulee light crude was down from 1,547 to 1,274 bbls. and Wainwright heavy crude declined from 1,455 to 1,364 bbls. For the 11 months of 1936 the Alberta output totaled 1,195,463 bbls. compared with 1,153,632 bbls. in the same period of 1935.

The figures indicate there would have been a sharp decline in Turner Valley production in 1936 but for the discovery of crude in quantity in the southwest of the field. Naphtha, which accounted for most of the production in previous years, declined in 1936, but the decline was more than offset by new crude production from Turner Valley Royalties No. 1.

The November figures show Royalite Oil Co. was the major producing unit with 47,964 bbls., chiefly naphtha. Turner Valley Royalties No. 1 ranked second with 21,768 bbls. of crude. The Mercury-Miracle organization ranked third with 10,218 bbls., and Model Oils, Ltd., fourth with 5,354 bbls. Century Royalties No. 1 was fifth with 4,429 bbls. Among the new producers, Sovereign Royalties No. 1, LSD 14, section 21-18-2w5, delivered 828 bbls. of naphtha, and Renfrew Royalties No. 1, LSD 3, section 28-18-2w5, had an estimated recovery of 300 bbls. of naphtha.

Of the Red Coulee light crude production, 1,024 bbls. came from the Vanalta wells. The Wainwright field had seven producers of heavy crude, Wainwright Consolidated being the largest with 353 bbls.

Arca Gets Lime

On the Cayley structure, east of Turner Valley, Arca Development Corp. No. 1, NW quarter section 24-18-1w5, got the Madison limestone below 8,763 feet and is deepening more than 41 feet in the lime. Some oil and gas shows have been met in top of the lime. Imperial Oil Ltd., Canadian Western Natural Gas, Light, Heat & Power Co. and Calgary & Edmonton Corp. are jointly interested in the well which is testing the theory that the source of the Turner Valley naphtha and light crude is a major pool of heavier crude east of the field.

The Arca well got the Madison approximately 2,400 feet deeper than Turner Valley Royalties No. 1 on the west flank of the structure, which in turn was 2,000 feet and more deeper than some of the earlier naphtha wells near the crest of the structure. It is the deepest well in Canada, and will probably have to drill to 9,000 feet to get the main porous horizon in the lime.

Two other tests are active east and northeast of the proven field. On the Aldersyde structure, north and east of Arca No. 1, Ranchmen's Gas & Oil Co. No. 1, LSD 16, section 13-20-29w4, is below 7,040 feet. This test had numerous small shows of oil and gas in a tight sand above the lime and is claimed to be logging considerably higher than the Arca well. Farther north, on the New Valley structure, McLeod Oil Co. No. 1, LSD 4, section 6-21-2w5, is below 7,030 feet after running 6-inch casing to 6,962 feet, the longest string of 6-inch in Canada. Some 38-degree crude was struck in the cardium sandstone, about 100 bbls. being swabbed before the casing was set.

West Side Completions

On the west side of South Turner Valley, Foundation Royalties No. 1, LSD 5, section 21-18-2w5, is testing production after running 2½-inch tubing. With connections still incomplete it was making around 600 bbls. a day.

In section 33-18-2w5, Royalite Oil Co. No. 3 Sterling-Pacific, LSD 13, ran 4-inch tubing which brought the production up from 110 to 130 bbls. a day, flowing by heads, with the hole still clearing itself of drilling fluid. Later the 4-inch was pulled and 3-inch run and further production tests are being made.

In section 30-19-2w5, Dalhousie Oil Co. No. 8, LSD 6, is below 5,003 feet. It is 5 miles north and slightly west of Turner Valley Royalties No. 1, but the wells are logging closely and the lime is looked for around 6,400 feet.

In section 4-19-2w5, Mercury Royalties No. 1 (formerly Mercury Oils No. 8) ran into caving at 208 feet and is fishing for lost tools. Mercury Oils No. 8 has been located in LSD 3, section 4-19-2w5, where cellar was dug some months ago. Location on the south line of section 4 offsets Sterling-Pacific No. 3 producer a little to the north and east.

In section 33-18-2w5, Royalite Oil Co. No. 4 Sterling-Pacific, LSD 4, offsetting Turner Valley Royalties No. 1 producer to the north, is below 5,834 feet, with the lime expected around 6,400 feet. Timbers are moving for Sterling-Pacific No. 5, LSD 12, same section, immediately south of No. 3 producer.

In section 28-18-2w5, B. & B. Co. No. 1, LSD 12, got the Madison lime at 6,195 feet. Open hole was drilled from 500 feet to the lime with 11½-inch bit and it is planned to cement 6⅝-inch casing about 30 feet in the lime. Location is 1,320 feet due south of Turner Valley Royalties No. 1 crude producer, which got the lime at 6,396 feet, and production 432 feet in. It will probably be the first completion of 1937. Midway between the Turner Valley and B. & B. wells, Richland Royalties No. 1, LSD 12, same section, is working on derrick. Farther south, Richland Royalties No. 2, LSD 5, is running casing to bottom around 4,060 feet. Richland No. 3, LSD 14, is below 3,460 feet, In section 21-18-2w5, Newfold Royalties No. 1, LSD 11, is below 4,956 feet. West Side Royalties No. 1, LSD 3, is below 5,575 feet. In section 16-18-2w5, Firestone Petroleums No. 1, LSD 13, has cellar finished and is waiting for rotary outfit from Foundation Petroleum No. 1. Prairie Royalties No. 1, LSD 16, section 17-18-2w5, is moving in new rotary outfit. Monarch Royalties No. 1, LSD 9, section 20-18-2w5, has derrick up and is moving rotary equipment. Clarence E. Snyder and Hilary Head have the contract.

West Side Locations

In section 16-18-2w5, Revenue Petroleum, Ltd., backed by Clifton C. Cross & Co., Robert Wilkinson and Hardie Turnbull of Calgary has spotted No. 1 test in N half LSD 15. It is southeast of Foundation No. 1 producer. Work will be started this month. Russell V. Johnson of Calgary is spotting a test for Okalta Oils, Ltd., tentative locations having been made in LSDs 2 and 3, section 30-18-2w5, and LSDs 3 and 4, section 16-18-2w5. In section 28-18-2w5, Model Oils, Ltd., of Calgary, has arranged for a test on acreage in LSD 4, in which the company will have a substantial participating interest.

In section 29-18-2w5, Globe Royalties No. 1, LSD 7, is working on cellar. Sunburst Oil Co. No. 1, LSD 1, has purchased from Mar Jon Oil Co. a steel derrick on its No. 2 in section 28-18-2w5. Davis Petroleums, Ltd., has organized to drill on acreage of Madison Oils, Ltd., in LSD 2, section 29-18-2w5. Commoils, Ltd., will drill its No. 1 on acreage of Commonwealth Petroleums, Ltd., in the same section, a quarter mile west of Turner Valley No. 1 crude producer. Directors of the company are A. D. Cumming, L. F. Clarry, D. J. Young, R. G. Smith and S. A. Annand. Rotary equipment of Calmont Oils, Ltd., is being moved from Sovereign Royalties No. 1.

Consolidated Development Co. has been organized by J. J. O'Connor, C. S. Bell, E. Heagle, M. Groberman and other Calgary men to test acreage in either section 29-18-2w5, or section 32-18-2w5. Ken M. Leitch of Calgary is arranging with eastern Canada interests for a test in LSD 10, section 32-18-2w5. West of Sterling-Pacific No. 3 producer, J. W. R. McLeod and Freehold Oil Corp. are arranging for a test in N half LSDs 13-14, section 32-18-2w5.

South Turner Valley

In section 21-18-2w5, Highwood-Sarcee Oils No. 2, LSD 1, is still blowing rotary fluid. Naphtha recovery is around 30 bbls. a day, gravity between 67 and 70.

In section 34-18-2w5, Rand Petroleum No. 1 is being completed by A. B. Claypool and associates with rotary tools. Work resumed around 3,790 feet and is deepening below 4,000 feet. It is on the east side of the field, and logging with Merland Oil Co. No. 1 producer. The Claypool syndicate holds 60 per cent royalty interest with 30 per cent to Rand Petroleums and 10 per cent to the Alberta government.

Tests in the Foothills

In the Forest Reserve area west of Olds, Hunter Valley Oil Co. No. 1 McLaren, LSD 12, section 13-31-10w5, is below 6,972 feet with two increases in gas and oil showings and considerable lime showing.

On the Kootenay dome west of Calgary, Roxana Petroleum No. 1, section 8-24-7w5, is below 1,470 feet, over 523 feet in the Madison lime, with 13⅜-inch hole. It is working in a darker and more porous lime and having trouble with corroding gas.

On the Mill Creek structure west of Pincher Creek, Weymarn Petroleums No. 2, LSD 5, section 7-6-1w5, is below 5,790 feet with oil and gas showing through the rotary mud. A bridge at 4,800 feet was cut through,

Gulf Coast Water Shipments, October, 1936

Company, terminal—	Crude (bbls.) Coastwise	Crude (bbls.) Export	Refined (bbls.) Coastwise	Refined (bbls.) Export	Total
Atlantic Pipe Line Co.:					
Atreco	1,621,395.66	.....	1,751.27	.....	1,623,146.93
Texas City	265,880.84	.....	9,997.98	.....	275,878.82
Harbor Island	718,768.75	.....	.....	.....	718,768.75
Coastal Refineries, Inc.:					
Port Isabel	.....	.....	107,979.00	.....	107,979.00
Eastern States Pet. Corp.:					
Houston	.....	.....	299,606.00	.....	299,606.00
Gulf Oil Corp.:					
Port Arthur	497,586.62	.....	2,827,346.49	.....	3,324,933.11
Humble Oil & Ref. Co.:					
Baytown	587,313.70	349,910.17	3,216,060.67	505,078.52	4,658,363.06
Harbor Island	2,773,624.08	.....	.....	.....	2,773,624.08
Texas City	578,429.91	.....	.....	.....	578,429.91
Magnolia Pet. Co.:					
Beaumont*	1,040,774.48	.....	2,417,504.62	.....	3,458,279.10
Pure Oil Co.:					
Smiths Bluff	292,344.00	.....	1,086,174.00	.....	1,378,518.00
Shell Pet. Corp.:					
Houston	289,320.00	183,210.00	1,576,145.00	69,575.00	2,118,250.00
Norco	.....	.....	343,559.00	.....	343,559.00
Standard Oil (La.):					
Baton Rouge	198,576.62	.....	1,316,956.26	255,174.48	1,770,707.36
The Texas Co.:					
Port Arthur	1,525,061.00	709,477.00	2,998,641.00	636,985.00	5,870,164.00
Miscellaneous	4,702,986.00	408,203.00	2,657,865.00	563,149.00	8,332,203.00
Total	15,092,061.66	1,650,800.17	18,859,586.29	2,029,962.00	37,632,410.12

*Includes export shipments.

when the well flowed by heads for a while, one flow of green crude lasting almost an hour. It is believed to be in the Fernie shales overlying the Madison lime.

Border Fields

On the Del Bonita structure south of Lethbridge, Sunshine Oils No. 1, LSD 10, section 19-1-21w4, has resumed from 5,175 feet with considerable oil in the hole.

On the South Twin River structure, Del Bonita Associated Oils No. 3 Twin River, LSD 9, section 10-2-20w4, is below 3,900 feet and getting close to the lime.

On the Majestic structure in the Taber area, Plains Petroleum No. 1, LSD 13-14, section 29-9-17w4, is resuming from 3,100 feet after the holiday shutdown.

Turner Valley Oil Co.

Shareholders of Turner Valley Oil Co., Ltd., of Calgary, re-elected the following directors: Hugh Melvin, president; J. H. Garden, R. B. Wilkinson, J. H. Williams, all of Calgary; M. T. Millar, W. H. King, Millarville; and Count de Roussy de Sales, Paris, France. The company holds acreage in North Turner Valley.

Tar Sand Operations

The International Bitumen Co., headed by Robert C. Fitzsimmons of Chicago, is preparing to resume refining operations next spring at its plant on the Athabaska River 53 miles north of Waterways, Alberta. It is planned to operate continuously for nine months and shut down for three months. The plant will handle approximately 700 tons per day of bituminous sands, with an estimated output of 700 bbls. of petroleum products. The potential daily output is: 6,160 gallons diesel oil; 4,760 gallons kerosene; 1,400 gallons gasoline; 3,640 gallons fuel oil; and 15,200 bbls. of asphalt. The daily operating cost is estimated at $490. It is planned to market diesel and fuel oil, kerosene and gasoline in the mining areas of the north, and the asphalt in Alberta.

Ontario Operations

In the Dawn field, Lambton County, Ontario, Union Gas Co. No. 90, E half Lot 24, Concession 4, Dawn Township, is below 1,250 feet. Union No. 89 has been spotted in NE quarter Lot 13, Concession 2.

In Enniskillen Township, Lambton County, P. D. Bornman & Co. No. 1 SW quarter Lot 29, Concession 9, is below 2,000 feet.

In Chatham Township, Kent County, Ontario, Union Gas Co. No. 6, SE quarter Lot 10, Concession 12, is below 1,350 feet. Ogletree Syndicate No. 2, Lot 13, Concession 5, is below 2,000 feet. In the Tilbury field, Perdue Syndicate No. 1, J. H. Williams farm, N half Lot 3, Concession 8, Tilbury East Township, is below 800 feet. In the De Clute field, Gubb & Russell No. 1, Lot 135, North Talbot Road, Raleigh Township, is below 1,100 feet.

In the Brownsville field, Oxford County, Aloka Oil & Gas Co. No. 8, Lot 23, Concession 12, Dereham Township, is below 145 feet. Adams & McNevin No. 2, S Lot 23, Concession 12, is below 200 feet. Armand Smith No. 4, Lot 5, Concession 10, Bayham Township, Elgin County, is shut down at 400 feet.

In the Eden field, Elgin County, E. P. No. 1, Carman Ball farm, Lot 26, Concession 8, Bayham Township is shut down at about 1,100 feet. Eden Gas Co. No. 4, Lot 24, Concession 8, Bayham Township, is shut down at 260 feet. Walters Gas Syndicate No. 2, Lot 20, Concession 8, Bayham Township, is below 800 feet. In Norfolk County, the Tillsonburg Oil & Gas Co. No. 1, Lot 7, Concession 1 South, Middleton Township, is below 100 feet.

Central West

Operations in Central Ohio, Kentucky, Illinois, Indiana

By GEORGE A. WHITNEY

FINDLAY, Ohio, Jan. 11.—Another location has been staked for a deep test in the basin area of Illinois, and preparations are being made to start operations on many more tests within the next few weeks. The site selected is on the Monroe Taylor farm, 1½ miles northeast of Ina, in Spring Garden Township, Jefferson County, and it will be drilled by John McCalpin, of Robinson, Ill., who holds approximately 14,000 acres under lease in this vicinity.

This test is one-half mile east of Phillips Petroleum Co. No. 1 Albert Nason, completed as an oil producer several years ago at a depth of 3,000 feet. This field has never been developed, due to litigation on ownership. Recent geological surveys show this section to have good possibilities of deep-well production and if this test proves dry at around 3,000 feet it will be drilled to between 6,000 and 7,000 feet.

No completions were reported in this field during the week and there is only scattered activity throughout the basin area, but the next 60 days should show a large increase in operations in this state and at that time the possibilities of oil production in this district should be known.

KENTUCKY FIELDS

Six oil producers and two dry holes were completed in the Kentucky fields. Operations have slowed considerably the past month but activity has been resumed. Total runs from wells served by Illinois Pipe Line Co. in western Kentucky during December was 114,219.89 bbls., a decline of approximately 6,000 bbls. from the previous month.

In McLean County, in the Livermore pool, George Engles No. 1 Livermore Wharf had a production of 5 bbls. the first 24 hours after a shot. On the Miles lot, in the town of Livermore, Troy Refining Co. No. 1 had an initial production of 25 bbls. Major Oil Co. No. 1 on the R. Rock lot also made 25 bbls. after a shot. On the same lot, B. B. Oil Co. had an initial production of 25 bbls. Major Oil Co. No. 1 Hoffman lot was abandoned as a duster. Near Grindstone Hill, in the same county, McLean Development Co. completed No. 4 on the G. B. McManama 150 acres as a 30-bbl. producer.

In Ohio County, Arch Carpenter No. 1 Howard heirs, 2 miles from Livermore, on Rough River, had a production of 130 bbls. the first 24 hours after a shot. Ellis & Blowers No. 1 Green River Coal Co., between the Green and Rough Rivers, has been abandoned as a dry hole.

CENTRAL OHIO FIELDS

The largest oil producer completed in the Central Ohio fields for some time was brought in by Preston Oil Co. on the J. L. Myers property, in section 6, Perry Township, Coshocton County. This well, drilled to a total depth of 3,035 feet, made 120 bbls. the first 24 hours after a shot. In the same section, Ohio Fuel Gas Co. is below 500 feet on the A. E. Marshall property. In section 9, Tiverton Township, Ohio Fuel Gas Co. No. 1 Oka Black was completed below the second sand at 3,263-83 feet and is a commercial gas well. In section 19, Washington Township, Murphy Petroleum Co. has staked a new location on the George Noland property. H. E. Perkins No. 1 Mame Ringwald made a good showing of oil at 2,966 feet and will be shot.

Hope Construction & Refining Co. No. 7 Charles O'Bannon, in section 16, Hanover Township, Licking County, was completed below the sand at 2,893-2,929 feet and produced 42 bbls. the first 24 hours after a shot. In section 17, same township, Pure Oil Co. No. 4 B. C. Nethers is drilling below 3,040 feet.

In Perry County, section 6, Reading Township, Ohio Fuel Gas Co. No. 2 Harriet Beard, was drilled through the Clinton sand at 2,892-2,917 feet to total depth of 2,962 feet and was plugged after making a show of 6,000 feet of gas.

Kelch Brothers No. 5 Lewis and Myrtle Backus, in section 35, Brown Township, Vinton County, which made one-half barrel of oil naturally, has been abandoned. It was drilled 10 feet into the top Berea sand, topped at 832 feet.

In Huron County, section 4, Hartland Township, McCorkill & Co. No. 1 E. A. Morgan made a show of gas in the shale at 401 feet and made a very small show of oil at 772 feet and is being cleaned out after a shot. In section 2, Bronson Township, Williams & Co. No. 1 Gertrude Roth made 5,000 feet of gas in the shale at 224-34 feet, made 1,000 feet of gas in the lime at 550 feet and will be shot.

In Lorain County, section 21, Wayne Township, Edson & Son No. 3 Reuben Chester, was drilled through the Clinton sand at 2,332-34 feet and has been plugged after making 6,000 feet of gas.

In Ashland County, section 10, Lake Township, Stewart & Co. No. 2 Elza Gharst was completed below the Berea sand at 550-82 feet and has been plugged after making 9,000 feet of gas. In section 1, Clear Creek Township, Ohio Fuel Gas Co. No. 1 S. E. Thudium did not find the Clinton sand and has been abandoned.

Ohio Fuel Gas Co. No. 4 George Lovell, in section 18, Marion Township, Morgan County, was drilled into the Maxburg 500-foot sand at 624-38 feet and is a commercial gas well.

In Meigs County, section 28, Lebanon Township, Ohio Fuel Gas Co. No. 1 Emma Taggart was drilled through the first Berea sand at 2,018-20 feet and made a show of oil and 8,000 feet of gas and has been abandoned.

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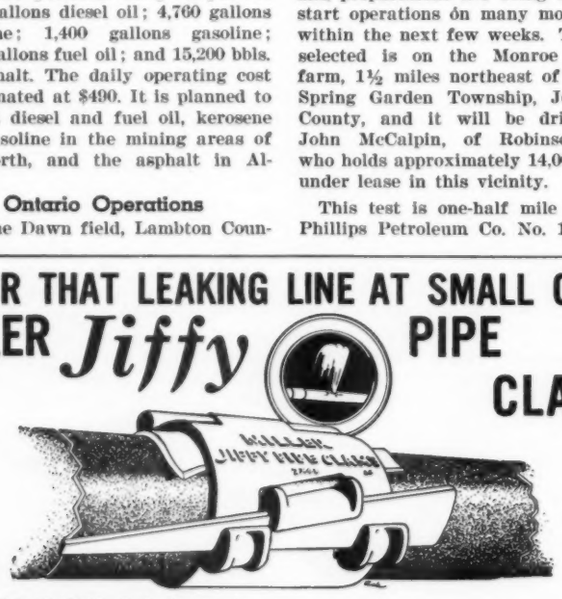

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Length of clamp	4-in.	8-in.	6-inch	6-inch
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WILDCAT OPERATIONS

CALIFORNIA

IMPORTANT WELLS AND NORTHERN CALIFORNIA WILDCATS

Company, well and location—	S.T.R.	Depth	Status:
Associated Oil Co., No. 1 Capitan, Santa Barbara Co.	2- 4-30	2,465	P.B. 2,150
Barnsdall-Rio Grande, No. 7 Elwood, Santa Barbara	15- 4-29	3,512	P.B. 3,315
Bush Oil Co., No. 3 Santa Maria, Santa Barbara Co.	30-10-32	5,429	P.B. 4,695
Shaffer, W. D., No. 1 Santa Maria, Santa Barbara Co.	9- 9-33	1,721	sd. sh. drlg.
Apache Oil Co., No. 1 Santa Maria, Santa Barbara Co.	31- 9-33	4,996	idle
Macrate, A. N., No. 2 Santa Maria, Santa Barbara Co.	26-10-34	1,820	cmtd. 1,820
Echo Oil Co., No. 1 Santa Maria, Santa Barbara Co.	23-10-34	3,400	cmtd. 2,925
Union Oil Co., No. 12 Santa Maria, Santa Barbara Co.	24-10-34	3,590	sd. sh. drlg.
Union Oil Co., No. 13 Santa Maria, Santa Barbara Co.	24-10-34	2,200	sd. sh. drlg.
Petrol Corp., No. 1 Los Alamos, Santa Barbara Co...	9- 8-32	1,871	hd. sh. drlg.
Moore, Inc., No. 1 Santa Maria, Santa Barbara Co...	25-10-35	8,021	fish. D.P.
Nine Springs Oil Co., No. 1 Los Olivos, Santa Barbara	9- 7-30	3,080	rigging up
Dietzman, J., No. 1 Carpenteria, Santa Barbara Co.	8- 4-25	1,025	rigged up
Fisher, Dan, No. 1 Cuyama, Santa Barbara Co.	28-11-28	640	sd. sh. drlg.
Merchants Pet. Co., No. 7 Sespe, Ventura Co.	1- 4-20	460	hd. sd. drlg.
Condor Oil Co., No. 1 Sespe, Ventura Co.	6- 4-19	1,477	idle
Topa Topa Oil Co., No. 1 Sespe, Ventura Co.	33- 5-19	3,200	idle
Speik Oil Co., No. 2 Sespe, Ventura Co.	33- 5-19	1,651	hd. sh. drlg.
Colima Oil Co., No. 2 Sespe, Ventura Co.	25- 5-19	251	sd. sh. drlg.
Oil Ridge Oil Co., No. 1 Hopper Canyon, Ventura Co.	6- 4-18	2,774	bailing
Bolsa Chica Oil Co., No. 4 Temescal, Ventura Co. ..	4- 4-18	4,584	will P.B.
Bolsa Chica Oil Co., No. 5 Temescal, Ventura Co. ..	5- 4-18	731	sd. sh. drlg.
Pacific Western Oil Co., No. 7 Temescal, Ventura Co.	4- 4-18	2,575	O.S. drlg.
Associated Oil Co., No. 1 Wiley Canyon, Ventura Co.	6- 3-18	3,623	hd. sd. drlg.
St. Louis Oil Co., No. 3 Ojai, Ventura Co.	13- 4-24	219	hd. sd. drlg.
Vaca Oil Co., No. 1 Oxnard, Ventura Co.	6- 1-21	2,822	rig heater
Continental Oil Co., No. 1 Red Mountain, Ventura Co.	7- 3-23	4,320	hd. sd. drlg.
General Pet. Corp., No. 1 Padre Canyon, Ventura Co.	15- 3-24	4,922	sd. sh. drlg.
C. C. M. Oil Co., No. 2 Padre Canyon, Ventura Co.	22- 3-24	5,420	br. sh. drlg.
Honolulu Oil Corp., No. 1 South Mountain, Ventura	23- 3-21	5,957	hd. sd. drlg.
Calco Pet. Corp., No. 4 South Mountain, Ventura Co.	17- 3-20	2,689	sd. sh. drlg.
Associated Oil Co., No. 27 Hartman, Ventura Co.	22- 3-23	4,500	rigging up
Associated Oil Co., No. 12 McGonigle, Ventura Co. ..	23- 3-23	10,297	sd. sh. drlg.
Associated Oil Co., No. 28 Lloyd, Ventura, Ventura	27- 3-23	5,768	sd. sh. drlg.
Associated Oil Co., No. 78 Lloyd, Ventura, Ventura	27- 3-23	4,695	recmtd. 4,690
Shell Oil Co., No. 89 Taylor, Ventura, Ventura Co...	30- 3-23	5,292	sd. sh. drlg.
General Pet. Corp., No. 17 Barnard, Ventura, Ventura	23- 3-23	5,386	reaming
Continental Oil Co., No. 6 San Miguelito, Ventura Co.	24- 3-24	3,940	sd. sh. drlg.
General Pet. Corp., No. 5 Rincon, Ventura Co.	tideland	2,162	sd. sh. drlg.
Surf Oil Co., No. 4 S.P., Rincon, Ventura Co.	8- 3-24	3,712	O.S. drlg.
Den Pet. Co., No. 1 Devils Den, Kern Co.	20-25-19	2,251	idle
Lube Oil Co., No. 1 Devils Den, Kern Co.	2-25-18	1,591	hd. sh. drlg.
Long, H. C., No. 1 Devils Den, Kern Co.	20-25-19	958	sd. sh. drlg.
Associated Oil Co., No. 8-A-3 Lost Hills, Kern Co...	11-26-20	1,218	P.B. 1,205
Associated Oil Co., No. 6-L-3 Lost Hills, Kern Co...	2-26-20	2,253	P.B. 1,870
Standard Oil Co., No. 2 Lost Hills, Kern Co.	2-26-20	1,592	pump. 390 b.d.
Welport Oil Co., No. 16 McKittrick, Kern Co.	26-29-21	1,110	cleaning out
Woodward, Hoke, No. 6 McKittrick, Kern Co.	11-30-21	1,317	P.B. 1,167
Bergman, H. L., No. 1 McKittrick, Kern Co.	30-30-21	1,690	pump. wtr.
Peters Royalty Corp., No. 2 McKittrick, Kern Co. ..	32-29-22	1,382	sd. sh. drlg.
Continental Oil Co., No. 1 Wasco, Kern Co.	8-27-24	7,234	sd. sh. drlg.
Belridge Oil Co., No. 12-1 North Belridge, Kern Co.	1-28-20	8,035	cmtd. 8,035
Belridge Oil Co., No. 14-35 North Belridge, Kern Co.	35-27-20	5,797	sd. sh. drlg.
Belridge Oil Co., No. 15-35 North Belridge, Kern Co.	35-27-20	8,120	br. sd. drlg.
Union Oil Co., No. 20 North Belridge, Kern Co.	36-27-20	8,445	flow. 200 b.d.
Milburn, E. B., No. 1 Kern Front, Kern Co.	10-28-27	2,230	pmp. 130 b.d.
National Oil Co., No. 3 Universal, Kern Front, Kern	11-28-27	1,986	rig. to pump.
Honolulu Oil Corp., No. 59 Kern Front, Kern Co. ..	8-28-27	2,896	P.B. 2,822
M. H. Whittier Co., No. 2 Kern Front, Kern Co.	16-28-27	2,868	pmp. 50 b.d.
M. H. Whittier Co., No. 3 Kern Front, Kern Co.	16-28-27	1,590	sd. sh. drlg.
Bishop Oil Co., No. 9 Kern Front, Kern Co.	23-28-27	2,079	pmp. 120 b.d.
Calif. Star Oil Co., No. 7-40 Kern Front, Kern Co. ..	22-28-27	2,621	pmp. 70 b.d.
Italo Pet. Corp., No. 35 Cauley, Kern Front, Kern Co.	16-28-27	2,848	pmp. 75 b.d.
Standard Oil Co., No. 2-9 Kern Front, Kern Co.	9-28-27	2,820	sd. sh. drlg.
General Pet. Corp., No. 37 Young, Kern Front, Kern	14-28-27	2,000	cmtd. 1,700
Hope Oil Co., No. 1 Kern River, Kern Co.	8-29-28	1,800	gr. sd. drlg.
McManus, Thomas, No. 1 Kern River, Kern Co.	2-29-28	264	O.S. drlg.
Roscoe & Stanley, No. 1 Premier, Kern Co.	29-27-27	2,660	pmp. 139 b.d.
Framac Oil Co., No. 3 Premier, Kern Co.	22-27-27	784	sd. sh. drlg.
Jeffries, J. J., No. 1 Premier, Kern Co.	7-27-27	2,253	gr. sd. drlg.
Transit Oil Co., No. 1 Glide, Mount Poso, Kern Co...	33-27-28	1,632	sd. sh. drlg.
Petroleum Securities, No. 2 Mount Poso, Kern Co. ..	34-27-28	1,670	cleaning out
C. C. M. Oil Co., No. 3 Dorsey, Mount Poso, Kern Co.	26-27-28	1,520	cleaning out
Western Gulf Oil Co., No. 34 Fruitvale, Kern Co. ..	21-29-27	5,561	sd. sh. drlg.
Western Gulf Oil Co., No. 35 Fruitvale, Kern Co. ..	22-29-27	4,875	P.B. 3,375
Western Gulf Oil Co., No. 36 Fruitvale, Kern Co. ..	22-29-27	3,808	cleaning out
Calif. Star Oil Co., No. 2 Fruitvale, Kern Co.	21-29-27	4,055	pmp. 150 b.d.
Omar Oil Co., No. 1 Fruitvale, Kern Co.	21-29-27	4,164	P.B. 4,100
Linderman Oil Corp., No. 1 Fruitvale, Kern Co.	28-29-27	4,333	P.B. 4,222
Tarr & McComb, No. 4 Fruitvale, Kern Co.	23-29-27	3,179	pmp. 85 b.d.
Trico O. & G. Co., No. 1 Mountain View, Kern Co...	13-30-28	5,000	redrlg. 3,776
Hogan Pet. Co., No. 2 Peters, Mountain View, Kern	5-31-29	6,168	cmtd. 6,075
Hogan Pet. Co., No. 9 Porter, Mountain View, Kern	29-30-29	6,098	swbg.
Buffalo Oil Co., No. 5 Mountain View, Kern Co.	19-30-29	4,285	sd. sh. drlg.
Standard Oil Co., No. 3 C. L., Mountain View, Kern	13-30-28	4,854	redrlg. 4,295
Standard Oil Co., No. 3 Mabry, Mountain View, Kern	18-30-28	4,541	sd. sh. drlg.
Mohawk Pet. Co., No. 3 Hood, Mountain View, Kern	30-30-29	8,221	deep test
Hillman & Long, No. 1 Mountain View, Kern Co. ..	34-30-29	3,752	sd. sh. drlg.
Shell Oil Co., No. 2 Bahrenburg, Mountain V., Kern	32-30-29	5,957	redrlg. 5,937
Berry Holding Co., No. 4 Edison, Kern Co.	10-30-29	1,926	cleaning out
East Edison Oil Co., No. 1 Edison, Kern Co.	23-30-30	1,035	bailing wtr.
Johnson-Leaf Oil Co., No. 1 Edison, Kern Co.	24-30-29	1,525	rigging up
General Pet. Corp., No. 1 Arvin, Kern Co.	26-31-29	7,462	cleaning out
Arkelo Oil Co., No. 1 Lerdo, Kern Co.	23-28-26	7,201	sd. sh. drlg.
Associated Oil Co., No. 1 Rio Bravo, Kern Co.	30-29-25	7,683	cleaning out
Shamrock Oil Co., No. 6 Round Mountain, Kern Co.	6-28-29	1,567	P.B. 1,561
Shell Oil Co., No. 12 Freeman, Round Mountain, Kern	20-28-29	1,830	cmtd. 1,475
Trans-Line Oil Co., No. 1 San Emidio, Kern Co.	3-10-23	951	hd. sh. drlg.
Bender, E. A., No. 1 San Emidio, Kern Co.	14-10-23	1,236	P.B. 900
Standard Oil Co., No. 9-1 Ten Section, Kern Co.	34-30-26	8,915	P.B. 8,204
Shell Oil Co., No. 34 Ten Section, Kern Co.	29-30-26	7,820	cleaning out
Shell Oil Co., No. 30 Ten Section, Kern Co.	30-30-26	2,600	sd. sh. drlg.
Superior Oil Co., No. 8 Ten Section, Kern Co.	11-30-26	9,385	hd. sh. drlg.
C. C. M. Oil Co., No. 24-21 Midway-Sunset, Kern Co.	21-32-23	2,700	pmp. 120 b.d.
C. C. M. Oil Co., No. 25-21 Midway-Sunset, Kern Co.	21-32-23	2,180	br. sh. drlg.
C. C. M. Oil Co., No. 1-J Midway-Sunset, Kern Co. ..	21-32-23	2,095	fish. D.P.
Alford, J. W., No. 7 Midway-Sunset, Kern Co.	25-12-24	1,881	sd. sh. drlg.
Associated Oil Co., No. 61-A Midway-Sunset, Kern Co.	35-31-22	1,000	pmp. 12 b.d.
General Pet. Corp., No. 172 Midway-Sunset, Kern Co.	34-12-24	890	rig. to pmp.
South Cerritos Oil Co., No. 4 Midway-Sunset, Kern	22-32-23	1,773	cleaning out
Merritt-Annex Oil Co., No. 3 Midway-Sunset, Kern	25-12-24	1,998	sd. sh. drlg.
Standard Oil Co., No. 28-3-D Midway-Sunset, Kern	3-32-24	4,007	completing
Standard Oil Co., No. 216-33-D Midway-Sunset, Kern	33-32-24	2,660	sd. sh. drlg.
Gibson Oil Co., No. 4 O'Brian, Midway-Sunset, Kern	6-11-23	1,883	sd. sh. drlg.
Goldman, Frank, No. 5 Midway-Sunset, Kern Co. ...	22-32-23	1,151	sd. sh. drlg.
McGray, Robt., No. 1 Midway-Sunset, Kern Co.	22-32-23	2,015	sd. sh. drlg.
McGray, Robt., No. 2 Midway-Sunset, Kern Co.	22-32-23	2,080	O.S. drlg.
Surprise Oil Co., No. 6 Midway-Sunset, Kern Co. ..	36-32-23	1,285	sd. sh. drlg.
Texas Co., No. 17 Midway-Sunset, Kern Co.	32-32-24	3,101	pmp. 101 b.d.
Oil Incorporated, No. 1 Midway-Sunset, Kern Co. ..	7-11-23	1,740	sd. sh. drlg.
Oil Producers, Inc., No. 1 Midway-Sunset, Kern Co.	7-11-23	2,053	sd. sh. drlg.
Quality Oil Co., No. 2 Cypress, Midway-Sunset, Kern	22-32-23	1,985	rigging up
St. Helens Pet. Co., No. 1 Midway-Sunset, Kern Co.	22-32-24	3,730	P.B. 3,645
Reserve O. & G. Co., No. 33-1 Tejon, Kern Co.	33-11-19	4,989	idle
Reserve O. & G. Co., No. 33-2 Tejon, Kern Co.	33-11-19	4,495	idle
Reserve O. & G. Co., No. 33-3 Tejon, Kern Co.	33-11-19	4,431	sd. sh. drlg.
Hall-Baker Co., No. 1-10 Tejon, Kern Co.	12-11-19	2,639	dry; abd.
Ohio Oil Co., No. 2 Tejon, Kern Co.	21-11-19	6,285	sd. sh. drlg.
Buffalo Oil Co., No. 1 Tejon, Kern Co.	5-10-19	1,221	sd. sh. drlg.
Western Gulf, No. 3 Cantua, Fresno Co.	3-17-15	8,527	redrlg. 7,920
K. N. D. A., No. 4-18-J Kettleman North, Fresno Co.	18-21-17	9,276	hd. sd. drlg.
K. N. D. A., No. 25-20-J Kettleman North, Fresno Co.	20-21-17	7,893	cmtd. 7,890
K. N. D. A., No. 21-30-J Kettleman North, Fresno Co.	30-21-17	8,849	P.B. 8,832
K. N. D. A., No. 52-30-J Kettleman North, Fresno Co.	30-21-17	8,830	hd. sd. drlg.
K. N. D. A., No. 63-28-J Kettleman North, Fresno Co.	28-21-17	8,480	fish. D.P.
K. N. D. A., No. 83-24-H Kettleman North, Fresno Co.	24-21-16	8,882	perforating
K. N. D. A., No. 81-32-J Kettleman North, Fresno Co.	32-21-17	7,760	sd. sh. drlg.
K. N. D. A., No. 85-32-J Kettleman North, Fresno Co.	32-21-17	7,910	hd. sd. drlg.
K. N. D. A., No. 52-34-J Kettleman North, Fresno Co.	34-21-17	7,919	flow. 3,850 b.d.
K. N. D. A., No. 72-34-J Kettleman North, Fresno Co.	34-21-17	8,150	flow. 2,250 b.d.
K. N. D. A., No. 47-2-P Kettleman North, Kings Co.	2-22-17	7,218	recmtd. 7,119
Standard Oil, No. 32-19-J Kettleman North, Fresno	19-21-17	8,850	cmtd. 8,630
Standard Oil Co., No. 8-19-J Kettleman North, Fresno	19-21-17	6,638	sd. sh. drlg.
Standard Oil, No. 72-19-J Kettleman North, Fresno	19-21-17	8,820	flow. 39 b.d.
Standard Oil, No. 85-19-J Kettleman North, Fresno	19-21-17	7,890	sd. sh. drlg.
Standard Oil, No. 46-13-H Kettleman North, Fresno	13-21-16	9,393	hd. sd. drlg.
Standard Oil, No. 38-33-J Kettleman North, Fresno	33-21-17	4,578	sd. sh. drlg.
Standard Oil Co., No. 54-1-U Kettleman North, Kings	1-23-18	9,675	P.B. 8,260
Standard Oil Co., No. 48-35-J Kettleman North, Kings	35-21-17	8,018	flow. 326 b.d.
Standard Oil, No. 46-19-V Kettleman Middle, Kings	19-23-19	7,918	sd. sh. drlg.
Associated Oil Co., No. 2 Avenal, Kings Co.	35-23-17	1,029	recmtd.
Foster, R. A., No. 1 Carriso, San Luis Obispo Co. ..	2-32-22	5,000	br. sh. drlg.
Jergins Trust, No. 1 Indian Knob, San Luis Obispo	26-31-12	1,473	will cmt.
Calif. Prod. Co., No. 1 Pattiway, San Luis Obispo Co.	19-10-24	751	sd. sh. drlg.
United Oil Co., No. 1 Panorama, San Luis Obispo Co.	2-32-21	2,304	sd. sh. drlg.
Union Oil Co., No. 1 Huasna, San Luis Obispo Co. ..	22-32-15	4,090	br. sh. drlg.
Lewis, A. O., No. 1 Pecho, San Luis Obispo Co.	34-30-10	2,310	will deepen.
Cholame Synd., No. 1 Cholame, San Luis Obispo Co.	10-25-15	3,687	cleaning out
Anderson, Amil, No. 1 Cholame, Monterey Co.	15-24-14	1,570	sd. sh. drlg.
Texas Co., No. 1 King City, Monterey Co.	30-19- 7	722	sd. sh. drlg.

KEY TO ABBREVIATIONS USED IN DRILLING REPORTS

Abd., abandoned.
Bldg., building.
B.D., barrels daily.
B.P., back pressure.
B.R., building rig.
Br. sh., brown shale.
B.S., basic sediment.
C.P., casing pressure.
Cd or Crd., cored.
C.D., corrected depth.
Cg., coring.
C.L., center line.
Cmtd., cemented.
C.O., cleaning out.
Comp., completed.
Compr., compressor.
C.P., casing pressure, also cement through perforations.
Csg., casing.
D.D., drilling (or drilled) deeper.
Drlg. or Drg., drilling.
Drk. or Dk., derrick.
D.S., drill stem.
D.&A., dry and abandoned.
Fsg., fishing.
Gbo., gumbo.
G.I., gas injection.
Gr., gravity.
Gr. sd., gray sand.
Grn. sh., green shale.
Hd. sd., hard sand.
H.F.W., hole full of water.
I.P., initial production.
L., lime.
L.D.D., later drilled deeper.
Lnr., liner.
Loc., location.
M.I.M., moving in material.
M.I.R., moving in rig.
M.I.R.T., moving in rotary tools.
M.O.T., milling on tools.
O.I.H., oil in hole.
O.S., oil sand.
O.T.D., old total depth.
O.W.D.D., old well drilling deeper.
O.W.P.B., old well plugging back.
P.B., plugging or plugged back.
P.B.P., pulling big pipe.
P.L., pipe line.
P.L.O., pipe line oil.
Pmpg., pumping.
P.O.P., putting on pump.
P.P., pulled pipe.
Rd. sd., red sand.
Rd. sh., red shale.
Recmt., recemented.
Rmg., reaming.
Redrlg., redrilling.
Rng., running.
R.O.G., rig on ground.
R.P., rock pressure.
R.U., rigging up.
R.U.R., rigging up rotary.
R.U.R.T., rigging up rotary tools.
R.U.S.T., rigging up standard tools.
R.&T., rods and tubing.
S. or Sd., sand.
S.D., shut down.
Sd. sh., sandy shale.
Sdtr., or St., sidetracking.
S.D.P.L., shut down for pipe line.
S.D.W.O., shut down awaiting orders.
S.G., show gas.
Sh.&L., shale and lime.
S.I., shut in.
S.I.P., shut in, prorated.
S.L.M., steel line measurement.
S.O., show oil.
S.O.G.&W., show of oil, gas and water.
Spdg. or Spd., spudding.
S.R., straightreaming.
Stdg., standardizing (also standing).
S.W., salt water.
Swbg., swabbing.
T.A., temporary abandoned.
Tbg., tubing.
T.D., total depth.
T.P., tubing pressure.
Tr., tract.
U.R., underreaming.
W.I.H., water in hole.
W.O., workover.
W.O.C. or W.O.C.S., waiting on cement to set.
W.P., working pressure.
W.S.O., water shutoff.
W.S.O.O.K., water shutoff O.K.
W.S.O.N.G., water shutoff no good.
W.S.R. or W.O.S.R., wait on standard rig.
Wtr., water.

Shell Oil Co., No. 1 Pleyto, Monterey Co.	34-24-10	8,994	P.B. 8,750
Shell Oil Co., No. 2 Pleyto, Monterey Co.	34-24-10	5,281	sd. sh. drlg.
Texas Co., No. 2 Eureka, Humboldt Co.	22- 3- 1	7,132	sd. sh. drlg.
Amerada Pet. Co., No. 3 Rio Vista, Solano Co.	26- 4- 2	4,304	flow, 1,000 mcf
Amerada Pet. Co., No. 4 Rio Vista, Solano Co.	23- 4- 2	4,476	cmtd. 4,300
Associated Oil Co., No. 1 Sargent, San Benito Co. ...	5-12- 4	4,786	cmtd. 4,670
Standard Oil, No. 5 McDonald Island, San Joaquin	31- 2- 5	....	bldg. rig
Buttes Oilfields, Ltd., No. 1 Kent, Sutter Co.	2-15- 1	3,170	gr. sd. drlg.
Jennings, E. P., No. 1 Allensworth, Tulare Co.	4-24-23	2,501	bl. sh. drlg.
Seaboard Oil Corp., No. 1 Terra Bella, Tulare Co. ..	16-23-26	521	sd. sh. drlg.

IMPORTANT WELLS AND SOUTHERN CALIFORNIA WILDCATS

Company, well and location—	S.T.R.	Depth	Status:
Caminol Oil Co., No. 1 El Segundo, Los Angeles Co.	18- 3-14	1,045	cmtd. 1,045
Caminol Oil Co., No. 2 El Segundo, Los Angeles Co.	18- 3-14	....	bldg. rig
Richfield Oil Co., No. 2 El Segundo, Los Angeles Co.	18- 3-14	1,620	sd. sh. drlg.
Richfield Oil Co., No. 4 El Segundo, Los Angeles Co.	18- 3-14	....	rigging up
Ohio Oil Co., No. 2 El Segundo, Los Angeles Co.	7- 3-14	5,095	sd. sh. drlg.
Texas Co., No. 1 El Segundo, Los Angeles Co.	17- 3-14	....	rigging up
Republic Pet. Co., No. 3 El Segundo, Los Angeles Co.	18- 3-14	1,993	sd. sh. drlg.
Signal Finance Co., No. 1 Hawthorne, Los Angeles Co.	10- 3-14	9,395	C.P. 8,850
C. C. M. Oil Co., No. 18 Torrance, Los Angeles Co. ..	31- 3-14	3,679	milling
Hunt Oil Co., No. 1 Torrance, Los Angeles Co	18- 4-14	4,226	sd. sh. drlg.
Nelson Pet. Co., No. 2 Torrance, Los Angeles Co. ...	18- 4-14	3,525	P.B. 3,472
Keystone Consd. Oil Co., No. 1 Redondo, Los Angeles	8- 4-14	3,100	cmtd. 3,100
McLaren et al, No. 1 Palos Verdes, Los Angeles Co.	27- 4-14	3,992	resume work
Universal Consd., No. 1 Gardena, Los Angeles Co. ..	36- 3-14	7,670	sd. sh. drlg.
Shell Oil Co., No. 47 Reyes, Dominguez, Los Angeles	33- 3-13	5,485	flow. 50 b.d.
Shell Oil Co., No. 87 Reyes, Dominguez, Los Angeles	33- 3-13	7,713	flow. 3,057 b.d.
Shell Oil Co., No. 88 Reyes, Dominguez, Los Angeles	33- 3-13	6,260	sd. sh. drlg.
Shell Oil Co., No. 89 Reyes, Dominguez, Los Angeles	33- 3-13	1,752	sd. sh. drlg.
Union Oil, No. 42 Callender, Dominguez, Los Angeles	33- 3-13	7,561	flow. 3,025 b.d.
Union Oil, No. 48 Callender, Dominguez, Los Angeles	33- 3-13	5,670	sd. sh. drlg.
Union Oil, No. 50 Callender, Dominguez, Los Angeles	33- 3-13	8,541	redrlg. 8,301
Union Oil, No. 42 Hellman, Dominguez, Los Angeles	33- 3-13	7,594	flow. 950 b.d.
Union Oil Co., No. 9 Carson, Dominguez, Los Angeles	33- 3-13	1,618	sd. sh. drlg.
Barnsdall Oil Co., No. 10 Rosecrans, Los Angeles Co.	20- 3-13	6,569	O.S. drlg.
Shell Oil Co., No. 1 Rosecrans, Los Angeles Co.	20- 3-13	5,361	sd. sh. drlg.
Calizoo Oil Co., No. 1 Compton, Los Angeles Co. ..	16- 3-13	3,985	idle
Eastern Oil Co., No. 1 Playa Del Rey, Los Angeles	22- 2-15	7,562	pump. test
Sharby Oil Co., No. 1 Playa Del Rey, Los Angeles Co.	22- 2-15	7,400	fish. D.P.
Union Oil, No. 15 D.R., Playa Del Rey, Los Angeles	27- 2-15	6,035	flow. 940 b.d.
Vincent Pet. Co., No. 1 Culver City, Los Angeles Co.	12- 2-15	6,238	resume work
Barnsdall Oil Co., No. 1 Newhall, Los Angeles Co. .	26- 3-17	6,215	O.S. cmtd.
Sunset Oil Co., No. 3 Wilmington, Los Angeles Co..	28- 4-13	3,450	O.S. drlg.
Getty Oil Co., No. 1 Wilmington, Los Angeles Co. ...	33- 4-13	2,495	O.S. drlg.
Royalty Service Corp., No. 1 Wilmington, Los Angeles	5- 5-13	2,544	reaming
Honolulu Oil Corp., No. 1 Puente, Los Angeles Co...	15- 2-10	540	sd. sh. drlg.
Richfield Oil Co., No. 2 Nutt, Montebello, Los Angeles	6- 2-11	5,420	cmtd.
Richfield Oil, No. 1 Estrada, Montebello, Los Angeles	5- 2-11	3,143	sd. sh. drlg.
Honolulu Oil Corp., No. 1 Montebello, Los Angeles	14- 2-12	3,365	core hole
Hobbs Pet. Corp., No. 1 Long Beach, Los Angeles Co.	29- 4-12	2,994	sd. sh. drlg.
Clayton, G. L., No. 1 Long Beach, Los Angeles Co. ..	32- 3-12	2,002	sd. sh. drlg.
Hathaway Co., No. 2 Fulton, Santa Fe Springs, L. A.	6- 3-11	4,650	cleaning out
Union Oil Co., No. 100 Santa Fe Springs, Los Angeles	6- 3-11	8,502	sd. sh. drlg.
General Pet., No. 43-C Santa Fe Springs, Los Angeles	5- 3-11	2,998	sd. sh. drlg.
Siebert Oil Co., No. 1 Santa Fe Springs, Los Angeles	31- 2-4	4,802	will cmt.
Julian & Criswell, No. 1 Walnut, Los Angeles Co. ..	5- 2- 9	1,350	sd. sh. drlg.
Drillers, Inc., No. 1 Whittier, Los Angeles Co.	22- 2-11	297	sd. sh. drlg.
Clayton, N. H., No. 1 Whittier, Los Angeles Co.	22- 2-11	751	cmtd.
W. C. W. Oil Co., No. 2 Huntington, Orange Co.	34- 5-11	4,290	pump. 235 b.d.
Kohlbush, H. S., No. 1 Huntington, Orange Co.	34- 5-11	4,890	pump. 165 b.d.
Dunlap, D. D., No. 4 Huntington, Orange Co.	2- 6-11	3,888	cleaning out
Dunlap Trust, No. 1 Huntington, Orange Co.	2- 6-11	3,993	sd. sh. drlg.
Terry, George, No. 2 Crane, Huntington, Orange Co.	2- 6-11	2,876	reaming
Petroleum Co., No. 4 Huntington, Orange Co.	2- 6-11	3,944	bailing
Car-Fad Oil Co., No. 2 Huntington, Orange Co.	2- 6-11	3,831	sd. sh. drlg.
Hammil Oil Co., No. 2 Huntington, Orange Co.	34- 5-11	5,155	bailing
Orco Oil Co., No. 5 Huntington, Orange Co.	2- 6-11	2,475	sd. sh. drlg.
South Basin Oil Co., No. 94 Huntington, Orange Co...	2- 6-11	3,380	will cmtd.
Elliott Oil Co., No. 1 Huntington, Orange Co.	34- 5-11	4,066	cleaning out
Miller, C. R., No. 2 Huntington, Orange Co.	2- 6-11	2,141	sd. sh. drlg.
Lucky Strike Oil Co., No. 7 Huntington, Orange Co.	2- 6-11	3,590	sd. sh. drlg.
Pan-Coast Oil Co., No. 1 Huntington, Orange Co.	34- 5-11	3,700	sd. sh. drlg.
Richfield Oil Co., No. 10 Fidelity, Huntington, Orange	34- 5-11	3,974	redrlg. 3,271
Richfield Oil, No. 1 Community, Huntington, Orange	34- 5-11	3,125	redrlg. 1,294
Richfield Oil Co., No. 1 Crowell, Huntington, Orange	34- 5-11	4,650	cleaning out
Commander Oil Co., No. 1 Newport, Orange Co.	29- 6-10	4,342	fish. bailer
Standard Oil Co., No. 62 Emery, West Coyote, Orange	13- 3-11	....	rigging up
Standard Oil Co., No. 2-5 East Coyote, Orange Co. ..	22- 3-10	4,700	cmtd. 4,314
Oil Conservation Co., No. 1 East Coyote, Orange Co.	17- 3- 9	2,814	will redrl.
Wilbur, V. R. G., No. 1 East Coyote, Orange Co.	20- 3- 9	3,095	sd. sh. drlg.
Graham & Loftus, No. 1 East Coyote, Orange Co. ..	18- 3- 9	3,782	sd. sh. drlg.
Associated Oil Co., No. 52 East Coyote, Orange Co...	18- 3- 9	3,487	will redrl.
Bartholomae Oil Co., No. 3 East Coyote, Orange Co.	22- 3-10	3,976	sd. sh. drlg.
West Coast Ref. Co., No. 1 Santa Ana, Orange Co. ..	25- 3- 9	2,763	P.B. 2,600
Union Oil Co., No. 29 Chapman, Richfield, Orange Co.	30- 3- 9	8,610	reaming
Union Oil Co., No. 39 Chapman, Richfield, Orange Co.	29- 3- 9	3,448	sd. sh. drlg.
Union Oil Co., No. 40 Chapman, Richfield, Orange Co.	29- 3- 9	3,390	cmtd. 3,350
Union Oil Co., No. 41 Chapman, Richfield, Orange Co.	29- 3- 9	1,995	sd. sh. drlg.
Union Oil Co., No. 42 Chapman, Richfield, Orange Co.	29- 3- 9	3,139	cmtd. 3,090
Standard Oil, No. 2-11 Kraemer, Richfield, Orange Co.	30- 3- 9	4,730	reaming
Standard Oil, No. 2-24 Kraemer, Richfield, Orange Co.	32- 3- 9	3,800	C.P. 1,509
Equitable Pet. Co., No. 1 Wildcat, San Bernardino Co.	11-10- 5	2,815	hd. sd. drlg.

KANSAS

Week Ending January 9 (Descriptions are East unless marked otherwise)

Barber County

Pure Oil Co. No. 1 Palmer, SE NE SW sec. 10-33-10w. Sil. 5,010-61 ft. T. D.; tested water; D.&A.

Barton County

D. R. Buchanan et al No. 1 J. Schartz, Sr., NW NW NE sec. 20-19-11w. Drlg. 2,500 ft.

John Burton No. 1 Wendel, NE cor. sec. 13-19-11w. Anhy. 785 ft.; S.D. 2,856 ft.

Duwe & Brouk No. 1 Baker, NE SE SW Sec. 16-17-13w. S.D. 2,915 ft.

Freeborn et al No. 1 Sooy, NW NW NE sec. 27-18-12w. S.D. 200 ft.

Hendon Drlg. Co. and Morgan & Flynn No. 1 Robenseifer, C NW sec. 7-18-15w. Machine.

Indian Terr. Illm. Oil Co. No. 1 Schrapel. SE SE NE sec. 26-20-11w. S.G. 1,500-05 ft.; 1 B.W. 1,570 ft.; drlg. 1,840 ft.

Minnehoma Oil & Gas Co. No. 1 Smith, NW NW NE sec. 20-18-13w. S.S.O. 3,241-43 ft Drlg. 3,255 ft.

S. L. Parks No. 1 Peach, SE cor. sec. 24-16-14w. R.U.S.T.

Stanolind O. & G. Co. No. 1 Riemann, SW SW NW sec. 34-16-13w. R.U.R.

Butler County

Cox & McGinnis No. 1 Faulders, SW SW NE sec. 27-25-3e. Set 12-in. csg. 1,200 ft.; C.O. 1,399 ft.

Ralph Wixson et al No. 1 Coulter, NW SW NE sec. 3-27-7. Base K.C. 2,242 ft.; L. 2,775 ft.; 11 B.W. 2,805 ft.; drlg. 2,940 ft.

Chase County

Propp et al No. 1 Fromm, SE cor. sec. 29-18-9e. Fsg. 2,440 ft.

Chautauqua County

Miller et al No. 1 Wininger, NE cor. sec. 2-35-9. Spudded.

Sagamore Oil Co. No. 1 Kingston, NE NE NW sec. 17-32-10. Drlg. 400 ft.

Cowley County

Austin & McKnabb No. 1 Wilson, NE NE SE sec. 20-32-6. Chat 3,060 ft.; T.D. 3,229 ft.; D.&A.

C. H. Cross No. 1 Cook, SW cor. sec. 6-32-6. Sand 2,278 ft.; T.D. 2,309 ft.; shot, 50 qts. 2,297-2,309 ft.; 5 B.W. and ¼ B.O. at 2,325 ft.

Tom Palmer No. 1 Pierce, SE SE SW sec. 14-31-3e. Sil. and S.S.O. 3,351 ft.; T.D. 3,391 ft.; D.&A.

Simpson Oil Co. and Stanolind O. & G. Co. No. 1 Weigle, SW SW NE sec. 18-31-6. Set 8-in. csg. 1,866 ft.; U.R. at 1,900 ft.

Earl Wakefield et al No. 1 Knapp, SW SW NW sec. 2-34-5e. 50,000 ft. gas at 585-600 ft.; drlg. 1,265 ft.

Decatur County

Winkler & Koch No. 1 Vessey, C NW SE sec. 26-3-26w. Drlg. 1,950 ft.

Edwards County

Stanolind O. & G. Co. et al No. 1 Donovan, C SE SE sec. 14-26-18w. Simpson 4,790 ft.; Sil. 4,872 ft.; C.O. 4,942 ft.

Ellis County

Empire O. & R. Co. No. 1 Hall, SE cor. sec. 2-12-17w. Drlg. 30 ft.

H. Jones Bros. et al No. 1 Phillips, SE SE NW sec. 9-15-17w. K.C. 3,245 ft.; S.S.O.&W. 3,314-17 ft.; H.F.W. 3,445-47 ft.

Ted Korn et al No. 1 Koblitz, SE SW NW sec. 23-12-18w. Pay 3,694-98 ft.; swb. 48 B.O. and swbd. down; T.D. 3,699 ft.; small increase.

Lario O. & G. Co. et al No. 1 Cress, NE cor. sec. 13-11-17w. Topeka 2,655 ft.; Dodge 2,925 ft.; fsg. 2,945 ft.

Loomis & Etyner No. 1 O'Laughlin, SE SE NW sec. 27-13-18w. Rotary rig. Abd.

Murphy Oil Co. No. 1 Wiesner. SE SE SW sec. 12-14-19w. Drlg. 1,320 ft.

Sunray Oil Co. No. 1 Befort, NE cor. sec. 11-14-20w. Set 15-in. csg. 732 ft.

Taylor et al No. 1 Emery, NE NE NE sec. 23-14-18w. Anhy. 1,162 ft.; K.C. 3,-285 ft.; Sil. 3,558 ft.; 4 bbls. oil per hr. 3,566-68 ft.; T.D. 3,570 ft.; P.B. to 3,-566 ft.; S.L.M.; perf. csg. 3,552-64 ft.; cmt. 6-in. 3,291 ft.; D.&A.

Ellsworth County

Empire O. & R. Co. No. 1 Brown, SE SE NW sec. 1-17-9w. Siliceous 3,257 ft.

Grant County

Columbian Fuel Co. No. 1 Gray, C SE sec. 3-29-35w. Skidded rig 100 ft. south; R.U.R.

Greenwood County

Hollis et al No. 1 Boone, NW NE NE SW sec. 21-26-12. Set 10-in. csg. to 505 ft. Drlg. 1,080 ft.

Guy Scott et al No. 1 Pedroja, SE NE SE sec. 6-26-10. Miss. 2,122 ft.; pay 2,154-61 ft.; acid. 1,000 gal.; est. 100 B.O.& S.W., comp.

Ohio Oil Co. No. 1 Schwab, SE SW SE sec. 9-24-10. R.U. machine.

Harvey County

Harburney Oil Co. No. 1 Schrag, NW NW SE sec. 24-22-3w. S.O.&G. 3,460-65 ft.

Saco et al No. 1 Guthrie. NE NE NW sec. 8-22-2e. H.F.W. 2,880 ft.; set 8-in. cg. 2,925 ft.; drlg. 2,975 ft.

Haskell County

Helmerich & Payne No. 1 Meredith. C SW sec. 10-30-33w. Set 7-in. csg. 2,452 ft.; R.U.S.T.

Kearney County

J. L. Murphy No. 1 Campbell, NW NW SW sec. 32-25-35w. Anhy. 1,900 ft.; T.D. 2,595 ft.; 1,400,000 ft. gas.

Kingman County

Shell Pet. Corp. No. 1 McMichael, C W½ W½ SW sec. 12-27-10w. R.U.R.

Lane County

K. C. Bates No. 1 Bates-Nimocks, C NW NE sec. 16-16-28w. Anhy. 2,065 ft.; drlg. 3,115 ft.

Logan County

Rose Spring Drlg. Co. et al No. 1 Wright, C SE SE sec. 12-15-35w. Anhy. 2,330 ft.; Ft. Riley 2,868 ft.; fsg. 3,909 ft.

Lyon County

Clyde Fred et al No. 1 Bruce, NW cor. sec. 18-18-10. Set 6-in. csg. 2,120 ft.

Meade County

Pacific Midwest Co. No. 1 Rexford, NE SE SW sec. 8-30-29w. R.U.

Mitchell County

Geo. Siedhoff et al No. 1 Greiss, SW SW SE sec. 16-8-10w. Drlg. 2,200 ft.

Ness County

Newton Dev. Co. No. 1 Tenny, NW NW SE sec. 19-18-25w. Set 8-in. csg. 2,869 ft.; U.R. 3,185 ft.

Osborne County

Helmerich & Payne No. 1 Hittinger, C SE SE sec. 2-7s-11w. Drlg. 3,275 ft.

Pawnee County

Kessler & Thier et al No. 1 Wallace, SE SE NW sec. 16-23-15w. Drlg. 2,215 ft.

Pratt County

H. V. Elwell et al No. 1 Fay, NW NW SE sec. 15-27-14w. Cmt. back to 2,700 ft.; set whipstock.

Reno County

Carlock et al No. 1 Brown Realty Co., NW NW NE sec. 32-22-10w. Rig.

Empire O. & R. Co. No. 1 Schrock, NW NW SE sec. 22-24-5w. Chat 3,390 ft.; 2,500 ft. W.I.H. at 3,500 ft.; D.&A.

Foraker et al No. 1 Hiett, SE SW NE sec. 34-24-4w. S.D. 3,825 ft.

Helmerich & Payne No. 1 Stewart, SE SE NE sec. 16-24-6w. Drlg. 800 ft.

Clyde Pulse No. 1 Payne, SW NW NE sec. 4-22-7w. Drlg. 2,500 ft.

Westgate-Greenland Oil Co. No. 1 Fossey, SW SW SE sec. 12-22-8w. Sil. 4,000-26 ft., T.D.; inc. water; D.&A.

W. E. Witt et al No. 1 Wright, SE NE NE sec. 9-23-8w. Drlg. 1,657 ft.

Rice County

Aylward et al No. 1 M. A. Johnson, NW NW NE sec. 17-21-7w. Cong. 3,358-60 ft.; T.D. 3,390 ft.; flwd. 710 B.O. in 6 hrs.; pot. 2,818 B.O.; comp.

Buckley No. 1 Bailey, SW SW NW sec. 19-20-6w. Set 12-in. csg. at 125 ft. W.O.C.

Carlock et al No. 1 Deweese, SW NW NW sec. 32-20-7w. Hunton 3,481 ft.; Viola 3,612 ft.; 2 B.W. & S.O. 3,624-30 ft.; Simpson 3,649½ ft. H.F.W. and fsg.

Dickey Oil Co. No. 1 Brothers, SE cor. sec. 1-21-7w. K.C. 3,083 ft.; drlg. 3,-412 ft.

Hanna et al No. 1 Brothers, SE SE NW sec. 25-20-8w. Rig.

Indian Terr. Ill. Oil Co. No. 1 Fossey, SW SW SW NE sec. 31-20-10w. C.O. 2,405 ft.

Sage et al No. 1 Patton, SW cor. sec. 5-21-7w. Chat 3,365-66½ ft.; pot. 1,560 B. O.; comp.

Shell Pet. Corp. et al No. 1 Soeken "A," C NW sec. 10-19-9w. Sil. 3,300-09 ft.. T.D.; P. 360 B.O. and 631 B.W. in 24 hrs.; S. 76 B.O. and 66 B.W. in 24 hrs.

Rooks County

Basin Oil Co. No. 1 Baxa, NE cor. sec. 23-9-17w. Drlg. 765 ft.

Buckner & Schoff No. 1 McConnel, NE cor. sec. 34-6s-18w. Set 10-in. csg. 1,756 ft.; C.O. 1,765 ft.

Graham et al No. 1 Fike, SW cor. sec. 9-9-17w. 1 B.W.&S.S.O. 3,235-38 ft.; drlg. 3,242 ft.

Jones Bros. No. 1 Wiss, NW cor. sec. 8-10-18w. Rig.

J. H. Lester No. 1 Methene, SE SE NE sec. 29-10-20w. S.D. 3,422 ft.

J. A. Shoemake No. 1 Stebbins, NE NE SW sec. 26-7-17w. T.D. 3,591 ft.; P.B. to 2,806 ft.; pmpd. 25 B.O. and 100 B.W. Comp.

Snowden & McSweeney No. 1 Hindman, C E½ NW sec. 35-17s-17w. K.C. 3,023 ft.; drlg. 3,080 ft.

Rush County

S. A. Murphy et al No. 1 Roth, NW NW SW sec. 21-16-18w. Rig.

G. M. Piggott et al No. 1 Maresch. C NW NW sec. 28-19-19w. Anhy. 1,320 ft.; drlg. 3,535 ft.

Schoenfeld & Kitch No. 1 Winget, SE cor. sec. 15-16-16w. K.C. 3,243-45 ft.; T.D. 3,427 ft.; set 8-in. csg. 3,245 ft.

Russell County

El Dorado Refining Co. No. 1 Scott, NW NW NE sec. 17-13-13w. Drlg. 2,775 ft.

Empire O. & R. Co. No. 1 Frederick, SE cor. sec. 18-15-11w. K.C. 3,051 ft.; set 5-in. csg. 3,295 ft.

Equity Gas Co. No. 1 Harbaugh, NW NE SW sec. 19-13-12w. Set 10-in. csg. 780 ft. W.O.C.

Thayer Drlg. Co. and Dee Miller, SW cor. sec. 10-13-15w. Anhy. 780 ft.; drlg. 2,-290 ft.

Saline County

Brouk et al No. 1 Othelander, NE NW SE sec. 10-16-3w. Viola 3,294 to 3,440 ft. Wilcox 3,493 ft.; H.F.W. 3,505 ft.; Sil. 3,520-25 ft., T.D.; P.B. to 3,320 ft.; acidized; after head, swabbed 27 B.O.&W. in 8 hrs.

Ryan Consd. No. 1 Wuerth, SW SW NW sec. 28-14-2w. Drlg. 950 ft.

Sedgwick County

Cameron et al No. 1 Smith, SW SE SE sec. 13-27-2e. R.U.

Scott County

C. R. Blackman et al No. 1 Nolan, NW NW NE sec. 13-19-33w. Loc.

Sheridan County

O. A. Roberts et al No. 1 Corrick, C NW sec. 34-9-26w. Topeka 3,515 ft.; K.C. 3,922 ft.; S.O. 3,975 ft.; drlg. 4,170 ft.

Stafford County

Empire Ref. Co. et al No. 1 Jordon, SW SW NW sec. 15-25-14w. K.C. 3,640 ft.; pay 3,722-27 ft.; acd. 2,000 gal.; Pot. 575 B.O., 2% wtr.; to D.D.

C. H. Lebow et al No. 1 Wolk. SE SW NW sec. 3-21-12w. K.C. 3,168 ft.; drlg. 3,-275 ft.

Skelly Oil Co. et al No. 1 Kipp, SE SE NE sec. 27-25-14w. Shot, 40 qts. 3,817-27 ft.; C.O.

C. E. Skiles et al No. 1 Hughes, SW cor. sec. 12-23-12w. Cd. 3,695-3,703 and 3,480-90 ft.; S.D. at 3,760 ft.

Stanolind O. & G. Co. No. 1 Rosacker, SW SW NE sec. 5-25-11w. Drlg. 3,419 ft.

Sumner County

Empire O. & R. Co. No. 1 Hoffman, NW NW SW sec. 27-34-1e. Set 6-in. 3,733 ft.; H.F.W. 3,770 ft.; drlg. 3,785 ft.

Graham et al No. 1 Dawson, NW NW NW sec. 4-33-2w. Fsg. 3,755 ft.

Hapenny & Green et al No. 1 Evers, SE SE NE sec. 27-31-2. S.D. 519 ft.

Lario O. & G. Co. et al No. 1 Hall, NW SW NW sec. 11-35-1e. U.R. 8-in. csg. at 3,095 ft.

Orcott & Stewart No. 1 Newton, SE cor. sec. 21-30-2. O.W.W.D.; S.D. 930 ft.

Rose Spring Drlg. Co. et al No. 1-A Rutter, C NW NW sec. 21-33-2e. Pot. 126 B.O. at 3,229 ft.; T.D. 3,238 ft.; 1,400 ft. W.I.H. in 12 hrs.; P.B. to 3,235 ft.; W.O.C.

E. B. Shawver et al No. 1 Bryan, C W½ W½ SW sec. 36-30-2w. B.R.R.

Lloyd, Study & Frost et al No. 1 fee, SE cor. sec. 31-34-1e. Drlg. 3,683 ft.

Trego County

Black Gold Oil Co. No. 1 Allman, C SW SW sec. 34-14-21w. Rot. rig.

Central Commercial Oil Co. No. 1 Burkett, C SW sec. 15-11-22w. O.W.W.D. Fsg. at 4,100 ft.

York State Oil Corp. No. 1 Gugler, SW 837-39 ft.; P.B. to 3,832 ft.; acidized; P. 125 B.O. and 104 B.W. in 24 hrs.

Woodson County

Ross & Marshall No. 1 Bresner, SW SW SE sec. 6-26-15. Drlg. 815 ft.

Reamer No. 1 Corn, NE cor. sec. 31-26-15 Drlg. 1,706 ft.

OKLAHOMA

Week Ending January 9

NORTHERN OKLAHOMA

Beckham County

Mid-American Oil Co. No. 1 Biscoe, SW SW SW sec. 28-8-22w. T.D. 1,310 ft.; fsg.

Choctaw County

Cooper & Branstetter No. 1 Bell, C NW NE sec. 29-6s-17. Drlg. 460 ft.

Cleveland County

Helmerich & Payne, Inc. No. 1 Glenn, C NW NE sec. 6-8-1w. T.D. 6,499 ft.; fsg.
W. R. Hollenbeck No. 1 Norman, NW NW NE sec. 17-9-2w. Rig.

Coal County

Carter Oil Co. et al No. 1 Warne, NE NE NW sec. 31-3-9. T.D. 5,560 ft.; bailed to bottom; dry.
Continental Oil Co. No. 1 Breedlove, NW SW SW sec. 24-1-8. Drlg. 5,680 ft.
Continental Oil Co. No. 1 Daniels, SW NE SW sec. 27-1-9. Bromide 6,656 ft.; drlg. 6,798 ft.
Continental Oil Co. No. 1 King, NE SW NE sec. 26-1-8. Wilcox 5,743 ft.; T.D. 5,-762½ ft.; P.B. 836 ft. (cor.); swab 3 B.O.P.H.
Continental Oil Co. No. 1 W. Kirby, SW SE SW sec. 23-1n-8e. Drlg. 3,142 ft.
Ruweldt & Couch No. 1 McMillan, SW cor. sec. 10-1s-8. Loc.

Creek County

J. E. Crosbie, Inc. & Sinclair Prairie Oil Co. No. 1 Bailey, NE NW NW sec. 28-15-7. Bldg. rig.
M. W. Mosier et al No. 1 Holcomb, SE SW NW sec. 19-18-8. Drlg. 2,870 ft.
W. J. Sherry No. 1 Childers, SW SW NE sec. 2-15-7. Loc.

Garfield County

Arab Oil Co. No. 1 Harkendorf, NE cor. sec. 34-20-3w. Digging pits.
Ohio Oil Co. No. 1 McFarland, SE SE SE sec. 25-24-3w. Arbuckle, 5,237 ft.; T.D. 5,242 ft.; D.&A.

Garvin County

Ellison & Hammond No. 1 Selby, C SE NW sec. 24-2n-3w. T.D. 6,385 ft.; sdy. lime.
Hayes Drlg. Co. No. 1 Howell, NW SE NW sec. 34-1-1. Rig.

Greer County

Bud Lewis et al No. 1 Webster, SW NE NE NE sec. 7-7-24w. S.O. 1,947-57 ft.; gr. wash and lime, 2,030-67 ft.; 800 ft. W.I.H.; fsg.
Neff-Godfrey-Andrea No. 1 Melton, SE NW SE sec. 16-3n-22w. Loc.

Hughes County

W. W. Bussett No. 1 Field, C NW SW sec. 11-9-11. S.D.
Carson Oil Co. No. 1 Lyter, NE NW SW sec. 31-8-12. Bldg. rig.
R. K. Ellison No. 1 Peters, SE NW SE sec. 8-6-10. Cromwell 4,270 ft.; dry; T.D. 4,301 ft.; S.D.
McAdams & Barnes No. 1 Koch, SW NE NE sec. 1-9-10. T.D. 3,838 ft.; R.U.S.T.
Mid-Western Prod. Co. No. 1 Hill C SE NW sec. 13-9-9. Set 10-in. 1,680 ft.; drlg. ahead.
Southern Oil Co. No. 1 Buck, C NW SW SW sec. 21-8-10. R.U.S.T.
C. J. Wrightsman No. 1 Diamond, NE NE SE sec. 33-9-9 Drlg 2,345 ft

Kay County

G. A. Brown et al No. 1-A Harris, SW SW NE sec 14-25-1e Rig.
Helmerich & Payne No. 1 Constant, SW SW NE sec. 17-28-2w. Miss. 4,200 ft.; T.D. 4,400 ft.; drill pipe stuck.
Ritz Oil & Gas Co. No. 1 State, NW NE SW sec. 16-29-2w. Rig on ground.

Kiowa County

Argus Pet. Co. No. 1 Osborne, NW cor. NE sec. 9-7-16w. T.D. 1,225 ft.; fsg.
Burns & Moore No. 1 Block, NW NE SW sec. 31-6-16w. S.D. 50 ft.
McWhirter & Francis No. 1 Padgett, NE NE NW SE sec. 3-5-17w. Drlg. 450 ft.

Latimer County

Cheyenne Oil Co. No. 1 Wilson, C SE SE sec. 15-5-18. T.D. 2,902 ft.; cond. hole.

Le Flore County

McCraw et al No. 1 Tidwell, C NW SE sec. 17-3-22. 10-in. 2,246 ft.; T.D. 2,340 ft.; S.D.

Lincoln County

Anderson-Prichard Oil Corp. No. 1 Colon, C N½ SE SW sec. 28-17-4e. Rig.
Fleetborn Oil Corp. No. 1 Turner, NW NW SE sec. 28-17-5. T.D. 3,994 ft.; swab. 30 B.O.P.D.; 8 per cent water; to pump.
Skelly Oil Co. No. 1 Laughlin, C SE NW sec. 29-17-3e. R.U.R.

Logan County

Anthony & Marshall No. 1 Fruin-Eckman, SE SE SW sec. 4-16-1e. Drlg. 4,958 ft.
Harry Blackstock No. 1 Prince, SE NE SW sec. 11-17-3w. Rig.
Helmerich & Payne et al No. 1 Hasler, NW NW SE sec. 14-16-4w. 1st Wilcox 6,408-33 ft.; T.D. 6,511 ft.; to core ahead.

Muskogee County

A. D. Spears et al No. 1 Robbins, NW cor. sec. 20-15-20. Turkey Mt. sd. 1,677-84 ft.; Arbuckle 1,710 ft.; T.D. 1,811 ft.; S.S.O.; S.D.

Noble County

Bailliere & Lindsey et al No. 1 Aetna Life, SE SE NW sec. 1-23-2w. Miss. 4,380 ft.; Woodford, 4,540 ft.; drlg. 4,600 ft.

Okfuskee County

Harvey Oil Co. No. 1 Stewart, NE cor. sec. 28-10-9. Set 10-in. csg. at 61 ft.; S.D.
Okla. Oil Corp. No. 1 Dawley, NW NW SE sec. 8-10-9. Senora 1,800-58 ft.; T.D. 1,886 ft.; much wtr.: D.&A.

Osage County

Norbla Oil Co. No. 1 Osage, NE NE SW sec. 13-23-6. Spudded, 40 ft.

Pawnee County

Forest Dev. Corp. No. 1 Otter, NE NW sec. 15-21-5. Miss 3,342-3,463 ft.; drlg. 3,511 ft.

Payne County

H. F. Young No. 1 Jenkins, SE NW SE sec. 4-17-3e. Drlg. 2,350 ft.

Pittsburg County

Okla. Dist. Oil Co. No. 1 Beeler, NE NE SW sec. 7-7-14. Wapanucka 4,490 ft.; T.D. 4,525 ft.; fsg.

Pontotoc County

Caloma Oil Corp. No. 1 Brentz, SE NE SW sec. 4-1-6. S.D. 503 ft.
W. A. Delaney and Boettcher O. & G. Co. No. 2 Alexander, SW NE SW sec. 24-4-7. Old T.D. 3,520 ft.; Dense 4,232 ft.; Dolomite 4,294 ft.; Cd. 4,323-28 ft.; S.S.O. and strong odor sulfur; drlg. 4,365 ft.
E. H. Moore et al No. 1 Muse, SW NE SE sec. 33-2n-7. Drlg. 566 ft.
Ramsey Pet. Co. No. 1 Johnson, NW SW SE sec. 9-3-7. Bromide 2,300 ft.; S.W. at 2,314 ft.; 1st sd. 2,365-80 ft.; 2nd. sd. 2,407 ft., T.D.; bailed to bottom, one-third bailer S.W.

Pottawatomie County

Mid-Continent Pet. Corp. No. 1 Logan, NE NE SE 31-11-15. Belle City 1,955 ft.; Hogshooter 2,400 ft.; drlg. 3,204 ft.

Seminole County

Carter Oil Co. et al No. 1 Simpson, SW SW NE sec. 7-8-8. Set 12-in. csg. 279 ft. W.O.C.
Okla. Oil Corp. No. 1-A Gaines, NE SW SW sec. 20-6-7. Cellar.
R. M. Purcell No. 1 Gilliland, SE SE SW sec. 24-11-7. Loc.
A. I. Spears No. 1 Keaton, NW cor. sec. 6-5-8. Rig.
Paul Traugh No. 1 Williams, NE SE NE sec. 22-6-6. Senora 2,347 ft.; T.D. 2,361 ft.; P. 126 B.O. and 2 B.W. in 24 hrs., accumulated.

Texas County

Allison & Barnhill No. 1 Bingley, SE SE NE sec. 30-2n-18. (Cimmaron Meridian). S.W. at 2,797-2,803 ft.; 400 ft. W.I.H., 2,808 ft. S.D.

Washita County

L. P. McWhirter No. 1 fee, SW cor. sec. 34-8-19w. Drlg. 1,605 ft.

SOUTHERN OKLAHOMA

Atoka County

A. J. Sanders No. 3 Redden, SE SW SW sec. 19-1n-15e. Drlg. 1,160 ft.

Carter County

Head & Straus No. 1 Simpson & Fell, NW NW SE sec 5-1s-3w. Cd. 1,478-80 ft., rec. Cong.; reaming core hole.
Lyle-Wham Dev. Co. No. 1 Jackson, NE SW SW sec. 26-5s-1e. Mch. on loc.

Comanche County

Frank Scott No. 1-A Kuntz, SE NE SE sec. 21-4-11w. T.D. 1,845 ft.; S.D. for csg.
C. V. Morris No. 1 Young, SE NE SE sec. 24-3n-10w. Drlg. 682 ft.
L. D. Wise No. 1 Cones, SE SE SW sec. 11-1n-10w. T.D. 2,156 ft.; S.D.

Cotton County

Phillips Pet. Co. No. 1 Warren, C NE NE SE sec. 1-5s-13w. T.D. 3,401 ft. S.D.O.

Harmon County

Lloalko Trust, Ltd. No. 1 Crosnoe, SE SE SW sec. 14-3n-25w. T.D. 2,980 ft.; S D.O.

Jackson County

Everett & Morgan No. 1 Dameron, NW SW SW sec. 34-3n-18w. T.D. 301 ft.; machine moved out.

Jefferson County

Lincoln Oil Co. No. 1 Derr, NW NW SW sec. 13-5s-8w. T.D. 3,500 ft.; abd.
Massad & Swansberger No. 1 Barrett, NE cor. SE SE sec. 14-6s-6w. T.D. 1,282 ft.; S.D. for bits.

Johnston County

Patton et al No. 1 McCrummens, SW SW NE sec. 16-1s-6e. Drlg. 673 ft.

Love County

Amerada Pet. Corp. No. 1-A Westheimer & Daube, SW SE SW sec. 27-6s-2e. T.D 7,363 ft.; P.B. 2,970 ft.; perforated csg at 1,539-99 ft. and 2,095-2,115 ft.; cmtd. perf.; flwd. 22 bbls. in 24 hrs. and "went dead"; S.D.O. Aug. 4.
W. H. Riddle et al No. 1 Johnson, C SW SE cor. sec. 20-8s-2w. T.D. 4,009 ft.; waiting for tools; will deepen.
Sinclair Prairie Oil Co. No. 1 Stockton, SE SE SW sec. 26-6s-2w. T.D. 8,583 ft. prep. to per. csg.; swabbed avg. of 50 B.O.P.D. past week.

Marshall County

Magnolia Pet. Co. No. 1 Gardner, NE NE NW sec. 34-6s-6e. Drlg. 2,789 ft. in lime.
Stuart & Taylor No. 1 Chestnut, NE cor. sec. 23-8s-5e. O.W. D.D.; drlg. 770 ft.

Murray County

Power Oil Co. et al No. 1 Lancaster Trust, C SW NE sec. 10-1s-2e. T.D. 3,203 ft.; S.D. for rotary tools.
J. Ben Russell No. 1 fee, SE SE NW sec. 9-2s-3e. T.D. 785 ft.; H.F.W. and S.D. for csg.

Stephens County

Carter Oil Co. No. 1 Harley, C NE NE sec. 24-2s-4w. Cellar and pits.
Jack Cohen No. 1 Pierce, NE NE NW sec. 24-2s-6w. T.D. 325 ft.; S.D. for fuel.
Coline Oil Co. No. 1 Johnson, SW SE NE NE sec. 1-2n-8w. Sd. 6,281 ft.; Cd. 6,284-6,296 ft.; rec. dry sd. and shade; drlg. 6,425 ft.
H. J. Edwards No. 1 Frederick, SW cor. NE SE NW sec. 31-2n-8w. Drlg. 2,-800 ft.
E. Parson No. 1 Olson, C SW SW sec. 31-2-8w. Tstd. mud, wtr. and S.O.; sd., odor oil and gas 6,856 ft.; T.D. 7,002 ft.; contract depth; S.D.

Tillman County

Indian Terr. Ill. Oil Co. No. 1 Hatler, SW NE sec. 32-2s-17w. Crystalline Dolomite 4,470 ft.; oil stains in cores; Viola 4,549 ft.; Simpson 4,682 ft.; drlg. 4,847 ft., green shale and lime shells.
Lynn Oliver No. 1 Rilling, SE SE NW sec. 22-1s-15w. Granite Wash 1,275-78 S.O.; T.D. 1,314 ft. S.D.
Shirley Clum et al No. 1 Moricle, NW NW SE sec. 16-4s-14w. S.O. 2,435-39 ft. T.D.; may test; S.D.

ARKANSAS

Clark County

John G. Wooten No. 1 Z. T. Sparkman, sec. 1-11-20. 7-in. cmtd. 560 ft.; arg. test.

Cleveland County

J. R. Lockhart No. 1 Ida Robertson, SE cor. sec. 36-10-11w. T.D. 3,174 ft.; washing to bottom.

Grant County

Wallace & Staples No. 1 W. F. Davis, SE SE NW sec. 23-6-15. Drlg. 2,418 ft.

Hempstead County

Birdwell et al No. 1 Duckett, SW NW SW sec. 24-13-24. Drlg. 100 ft.
Root Pet. Co. No. 1 D. F. Jones, 330 ft. S and W, NE SW NE sec. 16-13-23 Drlg. 3,340 ft.
Shephert & Todd et al No. 1 Smith, NW SW SE sec. 11-11-25. Drk.
W. E. Stewart No. 1 fee, SE NE NE sec. 31-12-23. Cg. L. 3,807 ft.

Little River County

Joe Strahan No. 1 Dierks, SW SE sec. 21-12-28. Drlg. 1,006 ft.

Miller County

Harber & Parks No. 1 Dean, NW SE sec. 24-15-26. 7-in. cmtd. 4,277 ft.; tstg. S.W.; T.D. 4,249 ft.
Odell Hinson No. 1 Montana Realty Co., 330 ft. S and W NE NW NW sec. 3-17-28. Dropped drill pipe; S.D.; T.D. 5,325 ft.
C. V. Lenz No. 7 Dale, O.W.D.D., sec. 24 15-26. Flw. about 20 B.P.D.; T.D. 4,-217 ft.; W.O.S.R.

Nevada County

Benedum & Trees No. 1 Block, NE NE SE sec. 9-14-20. Cg. 2,390 ft.
Benedum & Trees No. 2 C. C. Fincher, SW SW NE sec. 10-14-20. R.U.
Benedum & Trees No. 4 Grove, SE SW NW sec. 10-14-20. Drk.
Benedum & Trees No. 5 Grove, NE SW NW sec. 10-14-20. T.D. 2,138 ft.; W.O.S.R.
Benedum & Trees No. 6 Grove, SW NE NW sec. 10-14-20. Drk.
Benedum & Trees No. 7 Grove, NW SW NW sec. 10-14-20. Drk.
Benedum & Trees No. 8 Grove, SW SW NW sec. 10-14-20. Drk.
Benedum & Trees No. 9 Grove, NE NE SW sec. 10-14-20. Drk.
J. C. Buckbee No. 1 Wortham, SW SW NW sec. 29-13-21. Drk.
John R. Lewis No. 1 W. Haynie, SW SW NE sec. 5-14-20. T.D. 1,169 ft.; closing well in; gas blowing wild.
Steel & Warmack No. 1 Wm. Haynil, SE SE NW sec. 6-14-21. T.D. 1,183 ft.; W. O.S.R.

Ouachita County

Lion Oil Co. No. 1 Blanch Levey, C W½ SW SW sec. 21-15-15. Loc.
J. D. Reynolds No. 2 P. C. Grayson, Lot 4, Blk. 10, Stephens Sur., sec. 21-15-19, 8-in. cmtd. 1,503 ft.; sd. 1,508 ft.; tstg.

Pope County

Arkansas-La. No. 1 Smith, sec. 10-8n-21w. Drlg. 3,870 ft.

Sevier County

C. J. Benkley No. 1 Luther Tabler, NW NE SE sec. 14-10s-29w. M.I.M.

Union County

Dietrich et al No. 1 Aaronson, NE SW NE sec. 3-18-16. Loc.
McCreslen Oil Co. No. 4 L. Atkins, SE NW SE sec. 3-18-13. Top sd. 3,548 ft.; drlg. 3,550 ft.
Fenn-Ark. Corp No. 1 W. N. Raulston, 330 ft. S and E, NW NW SE sec. 13-17-14. Drlg. 2,901 ft.
S. H. A. Oil Corp. No. 1 H. D. Warren, NE SW SW sec. 10-17-14. D.S.T. 3,510-14 ft.; S.W.; P.B.; W.O.

Pulaski County

G. L. Kilselman No. 1 fee, SE SE SW sec. 2-1-13. S.D. 780 ft.

LOUISIANA

NORTH LOUISIANA PROVEN

Caddo-Rodessa

Ark.-La. Gas Co. No. 2 Teamer, NW SE SW sec. 13-23-16. Drlg. 5,581 ft.
Idessa Oil Co. No. 1 D. K. Sumner, NW SW SE sec. 10-23-15. T.D. 6,197 ft.; swbd. dry; W.O.
J. Edw. Jones No. 2-A Sharp, SW SE sec. 4-23-16. Loc.
J. Edw. Jones No. 3-A Sharp, SW SE sec. 4-23-16. Loc.
J. Edw. Jones No. 1-B Sharp, 297 ft. N, 151 ft. W of C sec. 4-23-16. R.U.
J. Edw. Jones No. 2-B Sharp, 893 ft. N, 60 ft. W, C sec. 4-23-16. Loc.
Lion Oil Ref. Co. No. 6 Wynn, NE SW SE sec. 9-23-15. Comp.; flw. 30 B.P.H.; T.D. 6,060 ft.
Lion Oil Ref. Co. No. 7 Wynn, NE SW sec. 9-23-15. 7-in. cmtd. 5,950 ft.; T.D. 6,-065 ft.
Magnolia Pet. Co. No. 10-A Caddo Lvy. Bd., NE NW sec. 21-23-16. Drlg. 5,-057 ft.
Magnolia Pet. Co. No. 11-A Caddo Lvy. Bd., SW cor. sec. 21-23-16. Loc.
Magnolia Pet. Co. No. 2-A Caddo Lvy. Bd., SE cor. sec. 21-23-16. Drlg. 3,211 ft.
Magnolia Pet. Co. No. 7 Foscue, NE cor. sec. 22-23-16. Drlg. 3,380 ft.
R. W. Norton No. 1 Payne, C SE SE sec. 27-23-16. Drlg. 6,900 ft.
R. W. Norton No. 2 Starke, 660 ft. N and E, SW sec. 16-23-16. Drlg. 5,885 ft.
Phillips Pet. Co. No. 2 Interstate, 330 ft. S and W, NE NW sec. 16-23-15. T.D. 6,123 ft.; tstg.
Phillips No. 3 Rose McDonald, NE cor. sec. 17-23-15. Cg. 6,041 ft.
Standard Oil Co. of La. No. 1 J. R. Hardin, 660 ft. N and E, C sec. 16-23-16. Drlg. 5,761 ft.
United Gas No. 6 Brewer Unit, 655 ft. S and E, NW sec. 21-23-16. Drlg. 5,606 ft.
United Gas No. 5 fee 574, 655 ft. S and W, C sec. 16-23-16. Drlg. 5,106 ft.
United Gas No. 3 Gibson Unit, 656 ft. N and E, SW SW NW sec. 15-23-16. Comp.; flw. 26 B.P.H.; T.D. 5,983 ft.
United Gas No. 4 Harris, NW NW SE sec. 15-23-16. Comp.; flw. 791 B.P.D.; T.D. 6,018 ft.
United Gas No. 3 W. M. Mitchell, NE cor. 112-ac. tr., sec. 20-23-16. Drlg. 5,-081 ft.
United Gas No. 1 Stephens, 655 ft. S and W, NE sec. 20-23-16. Drlg. 4,212 ft.

N. LOUISIANA WILDCATS

Bienville Parish

DeSoto O. & G. Co. No. 1 Dunn and Olsen, C N½ NW¼ sec. 15-16-10. Comp.; flw. 20,000,000 ft. gas; T.D. 5,235 ft.
Lide & Greer No. 1 Smelley, 220 ft. N, 160 ft. W, SE SW NE sec. 13-16-5. Drlg. 5,755 ft.
McDowell et al No. 1 Locke, NE cor. sec. 9-15-10. Cg. 1,523 ft.
Seaboard No. 1 McGee, 660 ft. N and E, C sec. 3-16-6. Drlg. 7,172 ft.

Bossier Parish

Ark.-La. No. 1 W. H. Davis, 660 ft. S, 1,-270 ft. E. NW NE NW sec. 8-17-11. Drlg. 4,495 ft.
Ark.-La. Gas No. 1 P. Potter, SW sec. 8-17-11. Drlg. 3,894 ft.
La. Pet. Corp. et al No. 1 Edwards Est., NW SW sec. 5-17-11. Drlg. 200 ft.
Plain Drlg. Synd. No. 1-B S. H. Bollinger, SE SW NE sec. 36-23-13. R.U.
Tidwell et al No. 1 Natting, sec. 15-22-14. T.D. 2,954 ft.; S.D.
Triangle Drlg. Co. No. 1-I Skannal, NE cor. sec. 22-17-12. Drlg. 2,190 ft.
United Gas No. 1 H. G. Freeman, SE cor. sec. 15-17-12. Drlg. 2,631 ft.
United Gas No. 1-H A. C. Skannal, NE SE sec. 26-17-12. Drk.

Caddo Parish

W. D. Chew No. 1-D Levee Bd., NW SE NE sec. 34-21-16. Prep. to drill deeper; T.D. 931 ft.
Paul Cooper No. 1 Rodgers, NW SW SW sec. 11-20-15. Drlg. 1,685 ft.
Custer Oil Co. No. 1 Wemple, N½ NW sec. 14-20-15. S.D. 1,650 ft.; rig rep.
DeMaggo et al No. 1 Huckaby, SE NE SE sec. 26-22-16. Loc.
Gulf Ref. Co. No. 1 E. P. Hatcher, 660 ft. N and E, SW cor. SE¼ sec. 11-17-15. Drlg. 8,054 ft.

B. F. Laney No. 1 Taylor, SW SE SW sec. 17-21-14. Drlg. 800 ft.
Lawrence Potter No. 1 Head, NE NE sec. 26-21-15. S.D. 2,310 ft.
F. L. Luckett No. 1 Connell, SW NE sec. 10-20-15. 6-in. cmtd. 2,174 ft.; T.D. 2,203 ft.; big. to test.
Maja Oil Co. No. 1 Hyman, 950 ft. W, 860 ft. N, SE cor. sec. 10-20-15. Drlg.
Maja Oil Co. No. 2 Self, SE NE SE sec. 10-20-15. Loc.
Matt M. Press No. 1 Keller, SE cor. sec. 10-20-15. T.D. 2,255 ft.; W.O.S.R.
Rodgers et al No. 1 Thompson, NW SW SW sec. 11-20-15. Drlg. 1,485 ft.
Simplex No. 10 Youree, NW SW sec. 7-20-14. Junked and abd.; T.D. 1,898 ft.
Stanolind O. & G. Co. No. 8 Christian, SE NW sec. 27-21-15. Drlg. 1,420 ft.
Stanolind No. 115 Dilion, SW SE sec. 14-21-15. Comp.; pmp. 30 B.P.D.; T.D. 1,-663 ft.
Stanolind No. 116 Dillon, SE SE sec. 14-21-15. Drlg.
Stewart No. 1 Morgan, SW NE sec. 10-20-15. Drlg.
Morefield & Prine No. 3 Stokeley, sec. 5-20-16. 6-in. cmt. and perf.; T.D. 957 ft.; W.O.C.S.
Shreveport Oil Co. No. 8-B Muslow, SW NW sec. 4-20-15. Comp.; pmp. 30 B.P. D.; T.D. 2,165 ft.
J. J. Thompson No. 1 Gamm, NE SW NW sec. 35-21-15. S.D. 1,320 ft.

Caldwell Parish

G. W. Zeigen et al No. 8 La. Cen. Lbr. Co., SE cor. sec. 4-14-2e. Loc.

Catahoula Parish

Balcones Corp. No. 1 T. J. Chisholm, 1,500 ft. N, 2,600 ft. W, SE cor. sec. 19-10-8e. Drlg.

Claiborne Parish

Max Hirsch et al No. 1 C. O. Ferguson, 2,640 ft. N, 1,000 ft. E, SW cor. sec. 29-22-6w. Drlg. 4,200 ft.
E. T. Oakes No. 1 H. W. Patton, NE cor. sec. 1-20-5. Comp.; flw. 110 B.P.D.; T. D. 5,379 ft.
United Gas et al No. 1 R. Simms, NW cor. sec. 32-20-5w. Drlg. 3,596 ft.

De Soto Parish

Benedum & Trees No. 1 Clifton, NE NW sec. 33-13-12. Drlg.
Chamberlin et al No. 1 Lanier, 280 ft. N and E, SW NE sec. 29-11-11. Drlg.
Coleman Gas Co. No. 1 Taylor, SW SW sec. 15-12-11. Comp.; 1,000,000 ft. gas; T.D. 872 ft.
Fite et al No. 1 Ramsey, sec. 36-11-11. W.O.; S.D. 1,804 ft.
Gulf Ref. Co. No. 36-A Jenkins, SE cor. sec. 2-12-12. Drlg.
Peral Oil Co. No. 1 Joyner, SE NW SW sec. 28-11-12. Drlg. 2,850 ft.
Rio Rajo Oil Co. No. 7 Prudhomme, SE cor. sec. 20-12-11. S.D. 1,250 ft.
Stillers et al No. 2 Jenkins, 330 ft. S and W, NE SE NW sec. 35-13-12. S.D. 2,503 ft.; fuel.
R. M. Sundby No. 1 A. P. Garland, NW SW sec. 7-14-14. Drlg. 3,033 ft.
Vaughn Prod. Co. No. 1 Sample, 330 ft. N and E, SW NE SE sec. 24-11-14. Cg. 4,484 ft.; well trying to blow out.

Grant Parish

Cane River Prod. Co. No. 1 Swope, SW NW sec. 17-9-1e. T.D. 1,609 ft.; W.O.S.R.
Grant Oil Corp. No. 1 Holmes, 300 ft. N, 150 ft. E, SW NE SW sec. 17-9-1e. T.D. 1,609 ft.; 6-in. cmt. 1,601 ft.; W.O.C.S.
Kirby et al No. 1 Maxwell, 150 ft. N, 300 ft. W, SE SW sec. 9-9-1e. T.D. 1,540 ft.; W.O.S.R.
Perry et al No. 1 Barrett, 150 ft. N and W, SE NE SE sec. 17-9-1e. 6-in. collapsed; T.D. 1,604 ft.; S.D.
T. W. Tannin No. 1 Keen, SE sec. 18-9-1e. T.D. 1,609 ft.; W.O.S.R.

Morehouse Parish

S. D. Hunter No. 11 Allison, 4,402 ft. E, 2,423 ft. S, NW cor. sec. 1, in sec. 47-20-4e. Drlg. 50 ft.
S. D. Hunter No. 12 Allison, 3,388 ft. E, 1,144 ft. N, SW cor. sec. 36, in sec. 37-21-4e. Comp.; flw. 1,500,000 ft. gas; T.D. 2,217 ft.
Interstate Fee No. 56, NE cor. sec. 27-20-3e. R.U.
United Carbon No. 3 Crossett, 641 ft. N and W, SE sec. 19-21-5e. Comp.; flw. 2,000,000 ft. gas; T.D. 2,240 ft.

LaSalle Parish

Ark Fuel No. 13-B Urania, NW NE NE sec. 18-10-2e. R.U.
Ark Fuel No. 14-B Urania, NE cor. sec. 18-10-2e. Loc.

Natchitoches Parish

Natchitoches Oil Co. No. 1 Simpson, sec. 12-7-7. T.D. 2,509 ft.; S.D.

Ouachita Parish

Hope Prod. Co. No. 6 Call, NE cor. sec. 37 of sec. 38-19-3e. 6-in. cmtd. 2,109 ft.
Hope Prod. Co. No. 7 Call, NW cor. sec. 43-19-4e. Loc.
United Carbon No. 7 Neston, NE cor. sec. 32-19-4e. R.U.

Red River Parish

Gulf No. 25 Kennedy, NW cor. sec. 24-13-11. T.D. 2,468 ft.; stdize.
W. J. Hunter No. 1 Long Bell Lbr. Co., sec. 19-13-9. T.D. 3,733 ft.; D.&A.
Peria Oil Co. No. 1 DeLong, 330 ft. S and E, C sec. 23-12-10. T.D. 1,980 ft.; rmg.

Richland Parish

Gulf Ref. Co. No. 15 R. R. Rhymes et al, sec. 32-17-4e. Drlg. 3,813 ft.

Sabine Parish

Blue Lake Oil Co. No. 1 Delaney & Wheless, NW SW sec. 31-9-13. Arg. to test; T.D. 2,032 ft.
A. L. Braden et al No. 1 Graham, SE NE sec. 19-9-13. Comp.; pmp. 65 B.P.D.; T.D. 1,710 ft.
F. G. Cox No. 1 Whitney Corp., C NW NE sec. 8-9-13. T.D. 4,365 ft.; P.B. 5,-503 ft.; drk. moved; well shut in; not gauged.
Earl F. Fox No. 1 Blankenship, NE SE NW sec. 13-9-12. Drlg.; 10-in. set 210 ft.
Hunter Co. et al No. 18 Sabine Ld. Co., SE sec. 28-8-13. T.D. 2,784 ft.; D.&A.
Posey Sisters Oil Co. No. 3 Burkett, NE cor. sec. 10-9-13. S.D. 3,234 ft.
L. Swift No. 1 Long Bell, NW SE SW sec. 11-8-14. Drlg. 3,313 ft.
Willis & Dowden No. 1 Lynch, SW NE SW sec. 29-9-13. T.D. 1,608 ft.; 7-in. 1,520 ft.; W.O.C.S.

Union Parish

Interstate Nat. Gas. No. 61 fee, SE sec. 1-20-3e. 6-in. cmtd. 2,105 ft.; W.O.C.S.
Interstate Nat. Gas Co. No. 62 fee, SE cor. sec. 36-21-3e. Drlg. 2,000 ft.
Interstate Nat. Gas No. 16 Grayling, 660 ft. N, 1,375 ft. W. SE cor. sec. 20-21-4e. 8-in. cmtd. 782 ft.; W.O.C.S.
So. Carbon Co. No. 17 Grayling, SW cor. sec. 21-21-4e. R.U.
So. Carbon No. 18 Grayling, SE cor. sec. 20-21-4e. Loc.

Webster Parish

Magnolia Pet. Co. No. 5 J. Cox, SW SE sec. 23-21-10. Cg. 7,975 ft.
Ohio Oil Co. No. 1 R. M. Coyle, NE SE sec. 22-21-10. T.D. 8,170 ft.; prep. run csg.
Ohio Oil Co. No. 1 Bodcaw Lbr. Co., C NE SE sec. 28-21-10. T.D. 8,188 ft.; flw. gas and dist.
Red Hawk Oil Co. No. 1 Mayfield, sec. 9-23-9. Cg. 2,797 ft.
Standard Oil Co. of La. No. 1 E. Firdecker, 1,320 ft. E, 1,316 ft. S, NW cor. sec. 2-17n-8w. Cg. 5,720 ft.; shows gas.
Tide Water No. 1 L. Pipes, NE SE sec. 10-18-10. Drlg. 5,960 ft.
United Gas No. 2 Davis, 660 ft. S and E, NW cor. sec. 23-21-10. Drlg. 7,650 ft.
United Gas No. 1 Mixon, SE SW sec. 22-21-10. Drlg. 7,560 ft.

Winn Parish

G. W. Zeigen No. 9 La. Cen. Lbr. Co., SE NE sec. 20-13-1e. R.U.

SOUTH LOUISIANA FIELDS

Ansela Butte—St. Martin Parish

Stanolind O. & G. Co. No. 1 Patin, sec. 46-9s-5e. 13⅜-in. csg. 1,514 ft.; T.D. 4,150 ft.; recmtd. cellar; W.O.C.

Bay St. Elaine—Terrebonne Parish

Texas Co. No. 13 State, sec. 17-22s-18e. Drlg. sh. 1,229 ft.

Bayou Mallett—Acadia Parish

Superior Oil Prod. Co. No. 1 Savole, sec. 47-7s-1e. Top sd. 6,983 ft.; T.D. 6,985 ft.; reaming to run csg.

Caillou Island—Terrebonne Parish

Texas Co. No. 33 State, sec. 20-23s-20e. T.D. 4,941 ft.; P.B. and S.T.; drlg. sh. 4,165 ft.
Texas Co. No. 31 State, sec. 20-23s-20e. Drlg. 5,132 ft.

Charenton—St. Mary Parish

Pan American Prod. Co. No. 2 Laws Realty Co., sec. 30-13s-10e. Drlg. sh. 3,100 ft.
Pan American Prod. Co. No. 1 South Coast Corp., sec. 30-13s-10e. Drlg. 50 ft.

Choctaw—Iberville Parish

Standard Oil Co. No. 6 Gay, sec. 52-9s-11e. T.D. 4,195 ft.; setting screen.

Cameron Meadows—Cameron Parish

Burton Sutton Oil Co. No. 16 Sch. Ld., sec. 16-14s-13w. Set 10¾-in. csg.; T.D. 4,851 ft.; P.D. 4,440 ft.; prep. to test.
Burton Sutton Oil Co. No. 18 School Ld., sec. 16-14s-13w. Drlg.
Magnolia Pet. Co. No. 19 Cameron Meadows, sec. 21-14s-13w. Drlg. sdy. sh. 4,411 ft.

Darrow—Ascension Parish

Humble O. & R. Co. No. 4 Community, sec. 33-2e. Drk.
Humble Oil & Ref. Co. No. 14 Community, sec. 29-10s-2e. Loc.
Humble O. & R. Co. No. 8 Gumble. Drlg. sh. 6,086 ft.

Dog Lake—Terrebonne Parish

Texas Co. No. 4 State, sec. 5-22s-16e. T.D. 6,351 ft.; drill stem stuck.

Four Isle—Terre Bonne Parish

Texas Co. No. 18 State. Drlg. sd. and L. 5,734 ft.

Fausse Point—Iberia Parish

Texas Co. No. 2 State, sec. 35-11s-8e. 7-in. csg. 6,444 ft.; drlg. sh. 7,053 ft

Garden Island—Plaquemines Parish

Texas Co. No. 20 State, sec. 37-23s-23e. T.D. 4,639 ft.; 7⅝-in. csg. 4,639 ft.; perf. csg. 4,442-75 ft.; I.P. 406 B.P.D. thru ⅝-in. choke.

Gillis—Calcasieu Parish

Fohs Oil Co. No. 1 Daharsh, sec. 14-9s-8w. Drlg. sh. 6,174 ft.
Union Sulphur Co. No. 12 Barbe, sec. 1-9s-8w. Drlg. wtr. sd. 7,739 ft.
Union Sulphur Co. No. 2 Bel, sec. 12-9s-8w. T.D. 6,788 ft.; P.B. 6,271 ft.; sidetracked; drlg. sh. and L. 8,211 ft.
Union Sulphur Co. No. 1 McIver, sec. 14-9s-8w. Loc.
Union Sulphur Co. No. 10 Powell, sec. 29-7s-2w. Drlg. sh. 6,963 ft.
Union Sulphur Co. No. 11 Powell, sec. 12-9s-2w. Drlg. sh. 2,877 ft.
Union Sulphur Co. No. 13 State, sec. 12-9s-8w. Drk.
Union Sulphur Co. No. 15 State, sec. 12-9s-8w. Drk.

Hackberry—Cameron Parish

W. T. Burton Oil Co. No. 1 R. L. Lewis, sec. 22-12s-10w. Drlg. sh. 1,532 ft.
Gulf Oil Corp. No. 22 Erwin, sec. 12-12s-10w. Drlg. sd. and L. 6,185 ft.
Independent Oil Co. No. 1 Sanner, sec. 29-12s-10w. Drlg. sh. 1,241 ft.
Stanolind Oil & Gas Co. No. 1 J. H. Duhon, sec. 27-12s-10w. Drk.
Stanolind O. & G. Co. No. 24-B Gulf Ld., sec. 14-13s-10w. Drlg. sdy. L. 6,268 ft.
Stanolind O. & G. Co. No. 1 M. J. Muller, sec. 23-12s-10w. R.U.
Superior Oil Prod. Co. No. 1 C. Hebert Estate, sec. 33-12s-10w. Drk.
Sutton Joint Interest No. 1 Portie, sec. 22-12s-10w. Drlg. sdy. sh. 3,250 ft.
Texas Co. No. 20 State, sec. 12-12s-10w. Drlg. sd. and L. 6,130 ft.
Union Sulphur Co. No. 3 Doiron, sec. 36-12s-10w. T. D. 3,981 ft.; I.P. 388 B.P.D. thru ¼-in. choke.
Union Sulphur Co. No. 42 Walkins, sec. 13-12s-10w. R.U.

Jeanerette—St. Mary Parish

Herton Oil Co. No. 6 Banta, sec. 40-13s-9e. T.D. 6,801 ft; 7-in. csg. 6,861; perf. csg.
Herton Oil Co. No. 4 Carter, sec. 38-13s-9e. R.U.
A. U. Morrison No. 1 Matilda Plantation, sec. 70-13s-9e. S.D. 1,972 ft. (cor.)
Philtop O. & G. Co. No. 1 Eaves, sec. 70-13s-9e. Drk.

Jennings—Acadia Parish

Cosmo Pet. Co. No. 5 Jennings Clement, sec. 46-9s-2w. R.U.
Shell Pet. Corp. No. 2 Community, sec. 40-9s-2w. T.D. 7,019 ft. oil sd.; reaming.
Stanolind O. & G. Co. No. 18 Houssiere-Latrelle, sec. 47-9s-2w. Drlg. sd. 4,696 ft.
Superior Oil Prod. Co. No. 1 Iowa-Jennings, sec. 41-9s-2w. Drk.
Superior Oil Prod. Co. No. 1 Jennings-Heywood, sec. 41-9s-2w. T.D. 6,757 ft.; 7-in. csg. 6,745 ft.; I.P. 517 B.P.D. thru 14/64-in. choke.
Superior Oil Prod. Co. No. 2 Leckcit, sec. 42-9s-2w. Drlg. sd. and sh. 3,400 ft.

Lafitte—Jefferson Parish

Texas Co. No. 5 Rigolettes, sec. 29-17s-24e. 7⅝-in. csg. cmtd. 10,244 ft; T.D. 10,250 ft.; I.P. 1,549 B.P.D. thru ⅝-in. gravity 35.5.
Texas Co. No. 6 Lafitte, sec. 20-17s-24e. Dig canal.
Texas Co. No. 1 R. C. Milling, sec. 20-17s-24e. T.D. 10,040 ft.; oil sd.; perf. csg.
Texas Co. No. 6 Rigolettes, sec. 39-17s-24e. Dig canal.

Lake Barre—Terrebonne Parish

Texas Co. No. 37 Lake Barre State. Drlg. sh. 9,063 ft.

Lake Hermitage—Plaquemines Parish

Gulf Oil Corp. No. 6 LaFourche, sec. 11-8s-25e. T.D. 3,039 ft.; sdtrkd.; T.D. 3,540 ft.; reaming.

Lake Pelto—Terrebonne Parish

Texas Co. No. 15 State, sec. 17-23s-18e. Drlg. sd. 6,944 ft.

Leesville—Lafourche Parish

Carter-Michael No. 1 E. S. Bernard, sec. 26-21s-22e. S.D. 5,503 ft.
Gulf Oil Corp. No. 1-A City of New Orleans, sec. 35-21s-22e. Drlg. sh. 1,093 ft.
Gulf Oil Corp. No. 4 City of New Orleans, sec. 25-21s-22e. Drlg. 5,856 ft.
Texas Co. No. 50 Leesville, sec. 34-21s-22e. T.D. 6,911 ft.; abd.
Texas Co. No. 51 Leesville, sec. 34-21s-22e. T.D. 5,047 ft.; running 7⅝-in.csg.

New Iberia—Iberia Parish

Wm. Helis No. 5 Bernard, sec. 54-12s-7e. Drlg. sdy. sh. and L. 3,810 ft.
Wm. Hellis No. 4 Boliver, sec. 56-12s-7e. R.U.
Wm. Helis No. 4 Bullock & Burke, sec. 25-12s-7e. Drlg. sdy. sh. 3,582 ft.
Wm. Hellis No. 3 Sabatier, sec. 54-12s-7e. Abd. 3,133 ft.
Wm. Hellis No. 2 Schwing, sec. 56-12s-7e. T. D. 2,451 ft.; twisted off drill stem; P.B. 1,760 ft.; W.O.C.
Kitos et al No. 3 Sealy, sec. 36-12s-7e. 9⅝-in. csg. 874 ft.; drlg. 4,312 ft.
Texas Co. No. 2 Bryant, sec. 25-12s-7e. T.D. 4,092 ft.; I.P. 32 B.P.H. thru 20/64-in. choke.
Texas Co. No. 1 Clementine, sec. 25-12s-1e. T.D. 7,354 ft.; salt; P.B.; sdtrkd. 4,090 ft.; drlg. S.W. sd. 5,989 ft.
Texas Co. No. 3-B Hanzen, sec. 54-12s-7e. Drlg. sdy. sh. 1,935 ft.

Port Barre—St. Landry Parish

Fan American Prod. Co. No. 3 Cormier, sec. 4-6s-5e. Drk.

Roanoke—Jefferson Davis Parish

Humble O. & R. Co. No. 6-B J. W. Devilbiss, sec. 11-9s-4w. Loc.
Humble O. & R. Co. No. 3 Thomas, sec. 11-9s-4w. T.D. 8,692 ft.; 7-in. csg. 8,-680 ft.; I.P. 21 B.P.H. through ¼-in. ck.
Shell Pet. Corp. No. 6 Kratzer, sec. 12-9s-4w. 10¾-in. csg. 2,454 ft.; T.D. 9,069 ft.; W.O.C.

Sorrento—Ascension Parish

Sorrento Oil Co. No. 1 Bernard, sec. 9-19s-14e. T.D. 5,068 ft.; washing to bottom.

St. Martinsville—St. Martin Parish

Continental Oil Co. No. 1-A fee, sec. 18-11s-6e. O.W.D.D.; S.O.; P.B. and sdtrkd.; T.D. 7,985 ft.; P.B. 7,220 ft.; rmg.

Starks—Calcasieu Parish

J. R. Turnbull No. 1 Industrial Lbr. Co., sec. 20-9s-12w. S.D. 6,433 ft.

Sulphur—Calcasieu Parish

Union Sulphur Co. No. 839 fee, sec. 29-9s-10w. 10¾-in. csg. 1,010 ft.; T.D. 1,-932 ft.; 7-in. csg. 3,923 ft.
Union Sulphur Co. No. 840 fee, sec. 29-9s-10w. Loc.
Union Sulphur Co. No. 841 fee, sec. 29-9s-8w. T.D. 4,456 ft.; 7-in. csg. 4,436 ft.
Union Sulphur Co. No. 842 fee, sec. 29-9s-10w. Drlg. sd. 3,566 ft.
Union Sulphur Co. No. 843 fee, sec. 29-9s-10w. Drlg. sh. and L. 3,726 ft.
Union Sulphur Co. No. 843 fee, sec. 29-9s-10w. Drlg. sh. 2,612 ft.

Tepetate—Acadia Parish

Continental Oil Co. No. 9-A Homeseekers Dev. Co., sec. 29-7s-2w. Drlg. sh. and shells 5,840 ft.
Continental Oil Co. No. 10-A Homeseekers Dev. Co., sec. 29-7s-2w. Drlg. sh. 1,-236 ft.
Continental Oil Co. No. 1-D Homeseekers Dev. Co., sec. 29-7s-2w. Drlg. sh. 1,-342 ft.
Continental Oil Co. No. 2 P. O. Johnson, sec. 30-7s-2w. Drlg.
Continental Oil Co. No. 1-A Young, sec. 29-7s-2w. T.D. 8,318 ft.; W.O.C.

White Castle—Calcasieu Parish

Shell Pet. Corp. No. 4 Shingle, sec. 12-11s-12e. T.D. 8,394 ft.; P.B. 7,701 ft.; wsg. over drill pipe.

S. LOUISIANA WILDCATS

Acadia Parish

H. E. Dalton No. 1 Setting, sec. 17-7s-1w. S.D. 5,047 ft.
Humble O. & R. Co. No. 1 Nordyke, sec. 23. Drlg. sh. and sd. 6,695 ft.

Allen Parish

Humble O. & R. Co. No. 3 Bel, located in cratered hole, sec. 26-6s-7w. 10¾-in. csg. 166 ft.; T.D. 2,870 ft.; 7-in. csg. 2,-766 ft.; shot well; failed to stop flwg. S.W.; S.D.

Avoyelles Parish

Coastal Mineral Dev., Inc., No. 1 Purdy-Hess, sec. 25-2n-3e. Drk.
George Conover No. 1 Purdy-Hess, sec. 14-2n-3e. Drk.
Frost Oil Co. No. 1 Hines Lumber Co., sec. 3-3n-4e. Drk.

Calcasieu Parish

D. D. Oil Co. No. 1 Lutcher Moore, sec. 1-8s-13w. R.U.
Union Sulphur Co. No. 1 M. P. Erwin, sec. 10-10s-8w. 10¾-in. csg. 1,296 ft.; abd. 8,472 ft.
Wilfred Lahaye No. 1 Bass, sec. 9-10s-12w. S.D. 80 ft.

Cameron Parish

Magnolia Pet. Co. No. 1 Gray Hrs., sec. 8-15s-14w. R.U.
Pure Oil Co. No. 1 Mallard Bay, sec. 13-13s-3w. 18⅝-in. csg. 1,499 ft.; 9⅝-in. csg. 7,906 ft.; T.D. 8,355 ft.; hd. sd.
Southern Sulphur Co. No. 2 State, sec. 13-15s-10w. Drlg. sh. and sd. 1,210 ft.

East Baton Rouge Parish

Cavalier Oil Co. No. 1 Vingnes, sec. 40-8s-2e. T.D. 6,690 ft.; D.S. stuck.
Cavalier Oil Co. No. 1 Young, sec. 62-4s-2w, Abd. loc.

East Feliciana Parish

East Feliciana Oil No. 1 West & Budding, sec. 37-1s-1w. Spudded 15 ft. and S.D.

Bayou Blue—Iberville Parish

Humble O. & R. Co. No. 2-A Wilbert, sec. 74-9s-10e. Drlg. sdy. sh. 1,539 ft.

Iberia Parish

Jefferson Lake Oil Co. No. 414 State Lake Pigneur, Twp. 12s-5e. Top salt 990 ft; drlg. salt 3,950 ft.
Texas Co. No. 1-B State, Vermilion Bay sec. 16-15s-6e. Drlg. sd. and sh. 10,-259 ft.

Jefferson Parish

Triangle Oil Co. No. 1 Conroe, sec. 125 12s-11e. S.D. 1,903 ft.

Jefferson Davis Parish

H. M. Naylor No. 2 Johnson-Bourdreaux, sec. 39-10s-3w. R.U.
Shell Pet. Corp. No. 1 Joe Sturdivant, sec. 25-10s-4w. 10¾-in. csg. 2,616 ft, T.D. 9,747 ft.; fsg.
Stanolind O. & G. Co. No. 1 Calcasieu Natl. Bank, sec. 28-7s-3w. Drlg. sh. 2,-057 ft.
Stanolind O. & G. Co. No. 1 United Life Accident Co., sec. 16-11s-5w. Drk.

Lafourche Parish

Fohs Oil Co. No. 1 State Lake, sec. 65-17s-19e. Dredging canal.
Wm. Helis No. 1 City of New Orleans, sec. 19-23s-23e. Drlg. sh. 6,240 ft.

Livingston Parish

Coastline Oil Co. No. 1 Addison Trust Co., sec. 7-7s-3e. Drk.

Plaquemines Parish

Gulf Oil Corp. No. 1 Bay-Adams, sec. 35-32s-19. T.D. 2,715 ft.; washing to bottom.
Tide Water Oil Co. No. 2 Manhattan Fruit Co., sec. 34-21s-22e. T.D. 4,762 ft.; P.B. 1,920 ft.; drlg. sh. 2,005 ft.

St. Bernard Parish

Gulf Oil Corp. No. 1 Lake Lery, sec. 33-14s-14e. Drlg. sd. and L. 3,500 ft.
Southern Sulphur Co. No. 2 State Lake Borgne, sec. 33-14s-15e. T.D. 1,104 ft.; recmtd. csg.; W.O.C.

St. Landry Parish

Superior Oil Prod. Co. No. 1 Savoie, sec. 26-8s-3e. T.D. 9,428 ft.; 7-in. csg. 6,-678 ft.; perf. csg. 5,316-19½ ft.; flwd. 41 bbls. in 16 hrs. through 18/64-in. ck. killed well to perf. csg. 5,320-23 ft.; tbg. sanded up; C.O.

Superior Oil Prod. Co. No. 2 A. Savoie, sec. 26-8s-3e. R.U.

St. Mary Parish

Texas Co. No. 1 Horse Shoe Bayou, sec. 40-17s-9e. Drlg. sh. 9,711 ft.

St. Martin Parish

Shell Pet. Corp. No. 1 Hefla Ld. Co., sec. 38-8s-5e. Cg. sh. 8,556 ft.

Texas Co. No. 9 St. Martin, sec. 21-8s-7e. 18⅝-in. csg. 106 ft.; drlg. sd. and sh. 2,248 ft.

Texas Co. No. 3 State, sec. 14-10s-9e. Driving piling.

Terrebonne Parish

Humble O. & R. Co. No. 1 H. J. Ellender, sec. 23-19s-19e. T.D. 8,757 ft.; twisted off drill pipe; trying to sdtrk.

Shell Pet. Corp. No. 1-B Realty, sec. 18-17s-15e. Cg. sdy. sh. 7,000 ft.

Vermilion Parish

Continental Oil Co. No. 1 O. C. Hebert, sec. 20-12s-3e. T.D. 11,732 ft.; circulating with mud; well tried to blow out; fsg. for stuck D.S.; hole cleaned to 10,680 ft.; set cmt.; P.B. to 10,800 ft.; sdtrkd. at 10,800 ft.; T.D. 12,216 ft.; 5-in. csg. 11,795 ft.; drlg. plug.

Stanolind O. & G. Co. No. 1 Fred Stovall, 13⅜-in csg. 1,980 ft.; drlg. sh. 10,840 ft.

TEXAS

Week Ending January 9

GULF COAST FIELDS

Raccoon Bend—Austin County

Humble O. & R. Co. No. 11 McCasland, Wm. Smithers Sur. R.U.

Humble O. & R. Co. No. 4-B Maclemell, Smithers Sur. T.D. 3,524 ft.; 7-in. csg. 3,434 ft.; R.U. to pmp.

Humble O. & R. Co. No. 10-B Hardy, J. E. Groce Sur. T.D. 4,134 ft.; tested gas; killed to deepen.

Hastings—Brazoria County

Humble O. & R. Co. No. 1 E. G. Flint, B.B.B.&C. Sur. Drlg. sh. 5,744 ft.

Humble O. & R. Co. No. 1 Graham and Allen, B.B.B.&C. Sur. T.D. 6,125 ft.; I.P. 20 B.P.H. through ¼-in. ck.

Humble O. & R. Co. No. 1-B Graham, B. B.B.&C. Sur., Lot 5. Drlg. L. 1,907 ft.

Humble O. & R. Co. No. 1 King, H.T.&B. Sur. Drk.

Stanolind O. & G. Co. No. 5-B Brown, H. T.&B. Sur. No. 29. Drlg. sh. 6,033 ft.

Stanolind O. & G. Co. No. 4 Cannon, H. T.&B. Sur. Bldg. drk.

Stanolind O. & G. Co. No. 2 T. C. Edwards, Wm. Henry Sur. Loc.

Stanolind O. & G. Co. No. 7 Drake, H.T. &B. Sur. No. 36. T.D. 6,080 ft.; 7-in. csg. 5,813 ft.

Stanolind O. & G. Co. No. 7 Ford, A.C.H.& B. Sur. No. 1. T.D. 6,080 ft.; rng. Schlumberger.

Stanolind O. & G. Co. No. 9 Ford, A.C. H.&B. Sur. No. 1. Drk.

Stanolind O. & G. Co. No. 10 Ford, A.C. H.&B. Sur. No. 1. Loc.

Stanolind O. & G. Co. No. 1 Legare, H.T. &B. Sur. No. 29. 10¾-in. csg. 1,690 ft.; W.O.C.

Stanolind O. & G. Co. No. 1 Sheffield, H.T.&B. Sur. No. 29. Drlg. L. 4,496 ft.

Stanolind O. & G. Co. No. 3 Surface, B. B.B.&C. Sur. Drk.

Stanolind O. & G. Co. No. 1 Wagner, H. T.&B. Sur. No. 29. 10¾-in. csg. 1,695 ft.; W.O.C.

Stanolind O. & G. Co. No. 8 Williams, A. C.H.&B. Sur. No. 1. Drk.

Lockridge—Brazoria County

Gulf Oil Corp. No. 1 K. M. Gibson, J. W. Hall Sur. T.D. 6,358 ft.; top oil sd. 6,-351 ft.; making D.S.T.

Gulf Oil Corp. No. 1 Fred Reiss, J. W. Hall Sur. Cg. sd. 6,746 ft.

Shell Pet. Corp. No. 1 Prison Farm, J. W. Hall Sur. T.D. 6,319 ft.; tstd. 500 lbs. pressure on D.S.T. 6,252-19 ft.; coring ahead.

Manvel—Brazoria County

Bowles & Borsodi No. 4 Norvell Co., Inc., H.T.&B. Sur. No. 23. R.U. and S.D

Burton Drlg. Co. No. 1-A Cooling, A.C.H. &B. Sur. T.D. 4,024 ft.; S.D.

Burton Drlg. Co. No. 1 C. H. Orr, A.C.H. &B. Sur. No. 92. T.D. 4,060 ft.; 7-in. csg. 4,040 ft.

Harrison and Abercrombie No. 2 Stratton. Drlg. sd., sh. and L. 4,194 ft.

E. A. Stone No. 1 Nichols, E. Little Sur. Drk.

Texas Co. No. 5 Leider, H. N. Little Sur. Drlg. sh. 1,544 ft.

Old Ocean—Brazoria County

Harrison and Abercrombie No. 3 Bernard River, Charles Breen Sur. 9⅝-in. csg. 6,070 ft.; drlg. sh. 9,510 ft.

Heyser—Calhoun County

Humble O. & R. Co. No. 5 E. H. Welder, J. M. Rios Sur. Drk.

Humble O. & R. Co. No. 6-A P. H. Welder, J. M. Rios Sur. T.D. 5,494 ft.; I.P. 3 B.P.H. through 3/16-in. ck.; T.P. 800 lbs.

Humble O. & R. Co. No. 7-A P. H. Welder, A. Sisneros Sur. T.D. 5,470 ft.; 7-in. csg. 5,470 ft.; tstd. gas; killed to dpn.

Humble O. & R. Co. No. 8-A P. H. Welder, J. M. Rios Sur. Drk.

Humble O. & R. Co. No. 8-B P. H. Welder, A. Sisneros Sur. Drlg. 500 ft.

Humble O. & R. Co. No. 9-B P. H. Welder, A. Sisneros Sur. Loc.

Portilla Oil Co. No. 2-C P. H. Welder, A. Sisneros Sur. Drlg. 7,730 ft.; no report.

Portilla Oil Co. No. 6-C P. H. Welder, A. Sisneros Sur. T.D. 4,890 ft.; I.P. 15 B. P.H. through 3/16-in. ck.

Anahuac—Chambers County

Gulf Oil Corp. No. 1 Acom, sec. 45, H.& T.C. Sur. T.D. 7,142 ft.; tstd. mud and S.W. on D.S.T. 6,890-7,130 ft.

Gulf Oil Corp. No. 6 Knowles, sec. 48, H. &T.C. Sur. R.U.

Gulf Oil Corp. No. 2 Pommer, sec. 40, H. &T.C. Sur. Bldg. drk.

Gulf Oil Corp. No. 1 Wilcox, sec. 48, H.& T.C. Sur. T.D. 7,079 ft.; I.P. 680 B.P.D. through ¼-in. ck.

Humble O. & R. Co. No. 10 Broussard-Hebert, sec. 59, H.&T.C. Sur. Drk.

Humble O. & R. Co. No. 11 Broussard-Hebert, sec. 59, H.&T.C. Sur. Loc.

Humble O. & R. Co. No. 9 Engels, J. A. Beckwith Sur. Drlg. sh. 5,150 ft.

Humble O. & R. Co. No. 5 Johnson. T.D. 7,120 ft.; I.P. 18 B.P.H. through ¼-in. ck.

Humble O. & R. Co. No. 6 Johnson, H.& T.C. Sur., sec. 47, 9⅝-in. csg. 1,273 ft.; W.O.C.

Humble O. & R. Co. No. 25 Middleton, sec. 58, H.&T.C. Sur. Drk.

Humble O. & R. Co. No. 7-B White, J. McGahey Sur. 9⅝-in. csg. 1,228 ft.; cg. 7,000 ft.; comp.; no gauge.

Humble O. & R. Co. No. 8-B White, J. McGahey Sur. Drlg. 5,486 ft.

Humble O. & R. Co. No. 19 White, J. McGahey Sur. T.D. 7,137 ft.; 5½-in. csg. 7,125 ft.; comp.; no gauge.

Cotton Lake—Chambers County

Glenn H. McCarthy No. 7 Kilgore, J. Townsend Sur. T.D. 6,320 ft.; tstd. oil and S.W.; set retainer at 6,300 ft.; perf. csg. 6,297-6,300 ft.; I.P. 10 B.P.H. through 11/64-in. ck.

Glenn H. McCarthy No. 8 Kilgore, Townsend Sur. R.U.

Humble O. & R. Co. No. 2 Howard, Winfree Sur. Abd. loc.

Salt Dome Oil Co. No. 1-A Lawrence, Solomon Barrow Sur. T.D. 7,008 ft.; 7-in. csg. 6,563 ft.; set cmt. retainer at 6,517 ft.; perf. csg. 6,481-92 ft.

Salt Dome Oil Co. No. 1-B Lawrence, S. Barrow Sur. R.U.

Turtle Bay—Chambers County

Stanolind O. & G. Co. No. 1 Iola Mae White, M. A. Carroll Sur. 10¾-in. csg. 1,136 ft.; drlg. sh. 2,766 ft.

Stanolind O. & G. Co. No. 4 State, due S of Sun Oil Co. No. 1 Chambers in Turtle Bay, Drlg. sh. and L. 5,022 ft.

Sun Oil Co. No. 3 Chambers, Chambers County Sch. Ld. Drlg. sh. 7,880 ft.

Big Creek—Fort Bend County

Gulf Oil Corp. No. 72 Davis, M. Young Sur. T.D. 2,759 ft.

Thompson Drlg. Co. No. 1 W. C. Moore, B. Wickerson Sur. Abd. 3,690 ft.

Blue Ridge—Fort Bend County

Barnett Pet. Co. No. 1-B Blakely, Lot 7, Blk. E, Drew Sur. T.D. 3,876 ft. (cor.); sanded up; pulling screen.

Harry Gordon et al No. 1 Blakely, E. Drew Sur. Abd. 4,277 ft.

Boling—Fort Bend County

Brewster Trustee No. 3 H. R. Farmer, J. Scott Sur. Drlg. sh. 4,020 ft.

Mack Hank Oil Co. No. 3-C Farmer, J. Scott Sur. Drlg. sh. 4,260 ft.

H. K. Spear et al No. 1 Kasperek, Simon Miller Sur. 7-in. csg. 3,960 ft.; T.D. 4,-015 ft.; P.B. 3,882 ft.; waiting on swb. line.

Orchard—Fort Bend County

Gulf Oil Corp. No. 49 J. M. Moore, Germain Immg. No. 8. T.D. 2,527 ft.; 13⅜-in. csg. 2,522 ft.

Gulf Oil Co. No. 50 Moore Germain Immg. Drlg. L. 1,679 ft.

Gulf Oil Corp. No. 51 Moore, Mark Smith Sur. Drk.

Thompson—Fort Bend County

J. N. Rayzor No. 1 Grimes, Kennedy Sur. T.D. 5,411 ft.; abd.

High Island—Galveston County

Stanolind O. & G. Co. No. 60-A Cade, M. Duncan Sur. Drlg. sh. and sd. 4,728 ft.

Stanolind O. & G. Co. No. 59-A M. Fitzsimmons Sur. T.D. 5,995 ft.; P.B. and sdtrkd.; drlg. sd. and L. 4,967 ft.

Dickinson—Galveston County

Diadem Oil Co. No. 1 Way, P. G. Merritt Sur. Drlg. sh. and L. 5,780 ft.

Humble O. & R. Co. No. 13-A Stewart, W. K. Wilson Sur. Drlg. sh. and sd. 8,-612 ft.

Humble O. & R. Co. No. 14-A Stewart, W. K. Wilson Sur. Drk.

Kenben Oil Co. No. 3 Stewart, W. K. Wilson Sur. T.D. 8,538 ft.; rmg.

Sinclair Prairie Oil Co. No. 1 W. Weems, W. K. Wilson Sur. Loc.

Greens Lake—Galveston County

Sun Oil Co. No. 6 W. A. Hughes, Wm. Scott Sur. R.U.

Silsbee—Hardin County

Republic Prod.-Houston Oil Co. No. 4 fee, G. W. Brooks Sur. T.D. 6,970 ft.; rng. 7-in. csg.

Republic Prod. Co.-Houston Oil Co. No. 5 Brooks, Geo. Brooks Sur. T.D. 1,606 ft.; rng. 10¾-in. csg.

Clinton—Harris County

Stanolind O. & G. Co. No. 1 D. A. Oates, C. Martinez Sur., Abst. 543. Loc.

Fairbanks—Harris County

Amerada-Stanolind O. & G. Co. No. 2-C Dopslauf, W.C.R.R. Sur., Blk. 1. Drlg. sh. 6,010 ft.

Mykawa—Harris County

Flanagan Prod. Co. No. 2 Minnetex, W. J. Lovett Sur. R.U.

West Prod. Co. No. 10 W. H. Irwin, W. B. Walker Sur. Drk.

Pierce Junction—Harris County

Rio Bravo Oil Co. No. 1 Hooks, J. Hamilton Sur. R.U.

South Houston—Harris County

Stanolind O. & G. Co. No. 1 Green, H.T.& B. Sur. No. 6, Tr. 134. 9⅝-in. csg. 1,-507 ft.; W.O.C.

Stanolind O. & G. Co. No. 2 Holder, H. T.&B. Sur., Tr. 145. T.D. 1,435 ft.; W. O.C.

Stanolind O. & G. Co. No. 2 Owen, H.T.& B. Sur. No. 6. Drlg. sh. 3,875 ft.

Stanolind O. & G. Co. No. 2 Pittman, Tr. 27, H.T.&B. Sur. No. 6. T.D. 4,054 ft.

Tysco Oil Co. No. 1 Christy Bros., H. C. Burnett Sur., sec. 4. Abd. 5,019 ft.

Tomball—Harris County

Humble O. & R. Co. No. 1 Alberts, J. House Sur. T.D. 5,582 ft.; I.P. 386 B.P. D. through ¼-in. ck.

Humble O. & R. Co. No. 1 C. E. Black, J. Pruitt Sur. T.D. 5,571 ft.; I.P. 230 B.P. D through ¼-in. ck.

Humble O. & R. Co. No. 1 Conway, E. Smith Sur. T.D. 5,567 ft.; 5½-in. csg. 5,562 ft.

Humble O. & R. Co. No. 5 H. S. Gebhard, W. Perkins Sur. Drk.

Humble O. & R. Co. No. 4 Hillegeist, J. House Sur. Drlg. 941 ft.

Humble O. & R. Co. No. 6 Holderrieth, J. Pruitt Sur. T.D. 5,569 ft.; I.P. 23 B.P. D. through ¼-in. ck.

Humble O. & R. Co. No. 3 C. H. Mueller, T. A. Duclose Sur. Drk.

Humble O. & R. Co. No. 1 W. L. Pickens, J. Pruitt Sur. Drlg. sh. 4,122 ft.

Humble O. & R. Co. No. 15 J. D. Reid, C. Goodrich Sur. R.U.

Humble O. & R. Co. No. 1 Tomball townsite, R. Hubbard Sur. T.D. 5,579 ft.; 5½-in. csg. 5,525 ft.; W.O.C.

Amelia—Jefferson County

Humble O. & R. Co. No. 2 Phelan, C. Williams Sur. T.D. 6,781 ft.; perf. csg. 6,-775-78 ft.; I.P. 606 B.P.D. through ¼-in. ck.

Humble O. & R. Co. No. 1 Tyrell-Combest Realty Co., A. Savery Sur. 16-in. csg. 214 ft.; drlg. 1,578 ft.

Big Hill—Jefferson County

Stanolind O. & G. Co. No. 1 Fitzhugh, McFaddin Sur. 10¾-in. csg. 1,861 ft.; T.D. 3,194 ft.; fsg.

Fannett—Jefferson County

Gulf Oil Corp. No. 11 Burrell, W. H. Smith Sur. T.D. 4,055 ft.; I.P. 290 B.P.D. through ¼-in. ck.

Gulf Oil Corp. No. 1 Junker, W. A. Smith Sur. R.U.

Nome—Jefferson County

Shell Pet. Corp. No. 3 Carpenter, M. Pevoto Sur. Drlg. 1,610 ft.

Sun Oil Co. No. 3 Long, J. Blair Sur. Drlg. sh. 653 ft.

Sun Oil Co. No. 4 Paggi, J. W. Kirby Sur. 10¾-in. csg. 1,063 ft.; T.D. 6,055 ft.; flwg. oil and S.W.; T.P. 360 lbs.; C.P. 140 lbs..

Sun Oil Co. No. 5 Paggi, J. W. Kirby Sur. 10¾-in. csg. 1,137 ft.; T.D. 6,056 ft.; flwg. into pits through ¼-in. csg.

Sun Oil Co. No. 1 A. J. Mouboules, J. Blair Sur. Drk.

Cleveland—Liberty County

Gulf Oil Corp. No. 16-C Kirby, T.D. 5,-904 ft.; perf. csg. 5,860-61 ft.; I.P. 14 bbls. distillate through ¼-in. ck.

Hankamer—Liberty County

Gulf Oil Corp. No. 1 Bernice Hankamer. T.D. 4,331 ft.; R.U. to pump.

Hull—Liberty County

Eclipse Oil Co. No. 1 Barrow. T.D. 5,014 ft.; cut and pulled tbg. 3,307 ft.

Gulf Oil Corp. No. 22 Baldwin, J. Devore Sur. S.D. 3,909 ft.

Gulf Oil Corp. No. 71 Phoenix. T.D. 4,101 ft.; 5-in. csg. 3,731 ft.; T.D. 3,587 ft.; I.P. 64 B.P.D.; pmpg.

Gulf Oil Corp. No. 114 Phoenix, J. Devore Sur. Drlg. sh. 4,545 ft.

Esperson—Liberty County

General Crude Oil Co. No. 22 Moores Bluff, M. Duncan Sur. T.D. 3,607 ft.; P.B. 3,-700 ft.; pmpd. 48 bbls. and 21 bbls. of S.W. in 8 hrs.

General Crude Oil Co. No. 24 Moores Bluff. Drlg. sh. 2,742 ft.

Bay City—Matagorda County

Hamman Expl. Co. No. 1 J. H. Crocker, E. Hall Sur. 13⅜-in. csg. 1,260 ft.; 9⅝-in. csg. cmtd. at 6,500 ft.; T.D. 9,-575 ft.; 7-in. csg. 9,575 ft.; perf. csg. 9,405-13 ft.; tstd. 7,500 ft. S.W. on D. S.T.; made squeeze job; W.O.C.

Hawkinsville—Matagorda County

Sun Oil Co. No. 2 Craig, T. Williams Sur. Top salt 796 ft.; base salt 2,099 ft.; 18⅝-in. csg. 2,174 ft.; drlg. 3,006 ft.

Markham—Matagorda County

Hamill and Hamill No. 6 Kountze, Henry Parker Sur. Drlg. sh. 2,630 ft.

Powers Prod. Co. No. 1-C Meyers, Wm. Hadden Sur. Drlg. sh. 1,850 ft.

Texas Gulf Prod. Co. No. 1 McDonald, I. &G.N. Sur., sec. 5. T.D. 4,677 ft.; P.B. 3,471 ft.; set whipstock; no report.

Texas Gulf Prod. Co. No. 1 Hudson, Henry Parker Sur. Abd. 4,234 ft.

Van Vleck—Matagorda County

Skelly Oil Co. No. 2 W. P. Johnson, M. Cummins Sur. Loc.

Skelly Oil Co. No. 2 Rugely, I.&G.N. Sur. No. 8. Drk.

Skelly Oil Co. No. 1 First Natl. Bank, I.&G.N. Sur. No. 7. Drk.

Conroe—Montgomery County

Feltex Oil Co. No. 3 Keystone Mills, L. Smith Sur. T.D. 4,996 ft.; 7-in. csg. 4,-968 ft.

LEGAL

Call for Bids To Purchase Royalty Oil Accruing to the United States from the Lance Creek, Wyoming, Oil Field. Pursuant to the provisions of Section 36 of the act approved February 25, 1920 (41 Stat. 437), sealed proposals, in duplicate, will be received in the Office of the Secretary of the Interior, Washington, D. C., on or before noon on February 15, 1937, from responsible bidders for the purchase, for a period of three or five years, beginning April 1, 1937, of all royalty oil accruing to the United States from all productive formations from the surface to and including the Basal Sundance from Government lands in the Lance Creek, Wyoming, oil field. For the calendar year 1934 the total Government royalty oil from the Lance Creek field amounted to approximately 10,406 barrels; during 1935 it amounted to approximately 33,664 barrels; and during 1936, by months, it has been approximately as follows: January, 2,988 barrels; February, 3,484 barrels; March, 5,946 barrels; April, 5,917 barrels; May, 4,003 barrels; June, 2,848 barrels; July, 10,944 barrels; August, 6,256 barrels; September, 7,751 barrels; October, 7,334 barrels. The monthly figures listed hereinabove indicate that the average monthly Government royalty production for the period January to October, 1936, inclusive, amounted to approximately 5,747 barrels. During the periods mentioned the range in gravity was from 36 to 47 degrees A. P. I. The approximate gravity of oil from the Dakota sand is 45°, from the upper Sundance sand 38°, and from basal Sundance sands 47°. Additional information may be obtained from the Director, Geological Survey, Department of the Interior, Washington, D. C., or the Supervisor, Geological Survey, Casper, Wyoming. Bids are invited upon two separate items, as follows: Item 1. All royalty oil for the period beginning April 1, 1937, and ending March 31, 1946. Item 2. All royalty oil for the period beginning April 1, 1937, and ending March 31, 1942. Bids must be in the following form: "For Item —— for the period beginning April 1, 1937, and ending March 31, 19—, (name of bidder) offers a premium of —— cents per barrel above the highest field price for oil of 40° A. P. I. gravity for the Salt Creek field, Wyoming, as published or offered on any basis of tank measurement reported in terms of capacity tables of not less than 97 percent by the principal purchaser of oil in said field, or if the highest field price for oil of 40° A. P. I. gravity in Oklahoma and Kansas, as similarly published or offered by at least two of the five principal purchasers of oil be higher than the said price for the Salt Creek field, said premium is offered above said higher price, the applicability of any such price to be determined by the Secretary of the Interior." Delivery of royalty oil will be made on the respective leaseholds without cost to the Government to the successful bidder or for his account. The leases provide that the lessee shall not be required to hold such royalty oil in storage longer than 30 days after the end of the calendar month in which said oil is produced. Payments for the royalty oil are to be made by check or draft drawn to the order of the Commissioner of the General Land Office and transmitted to the Supervisor, Geological Survey, Casper, Wyoming, on or before the last day of each month following the month in which delivery is made. The volume of said royalty oil will be determined in accordance with existing departmental orders and regulations requiring the measurement of Government royalty oil on the basis of 100 percent capacity tables in terms of 42 United States gallons of 231 cubic inches at a temperature of 60 degrees F. Each bidder must submit with his bid a bond in the sum of $750.00 or a certified or cashier's check or draft for that amount, payable to the order of the Secretary of the Interior, as a guarantee that he will, if successful, promptly execute a satisfactory contract and furnish an acceptable bond in the sum of $40,000, conditioned on a full and complete compliance with the terms of the contract. The Secretary of the Interior may accept any bid which in his judgment is most advantageous to the Government, but reserves the right to reject all bids whenever in his judgment the interests of the United States so demand. Sealed bids are to be submitted to the Secretary, Department of the Interior, Washington, D. C., the envelope to be marked plainly, "Bid on Lance Creek royalty oil." No bid received after the time herein fixed for submitting bids will be considered. (Sgd.) Harold L. Ickes, Secretary of the Interior. December 31, 1936.

Normandie Oil Co. No. 23 Texas-Osage. Cg. 5,000 ft.

Strake Pet. Co. No. 9 Bean, W. C. Lynch Sur. T.D. 5,065 ft.; 7-in. csg. 5,040 ft.

Sun Oil Co. No. 21 Keystone Mills, J. Smith Sur. T.D. 5,053 ft.; 7-in. csg. 5,002 ft.; W.O.C.

Ace—Polk County

Peyton Bros. No. 1-B Kirby West Lmb. Co., G. S. Thomas Sur. T.D. 4,900 ft. 5½-in. csg. 4,900 ft.; perf. csg. 4,858-62 ft.; flwd. est. 6 bbls. of 50.2 grav. oil per hr. through ¼-in. ck.; W.P. 1,500 lbs.; shut in to install high-pressure separator.

Segno—Polk County

S. J. Ryan No. 1 Wing Est., I.&G.N. Sur. No. 15. R.U.

Greta—Refugio County

United Gas Co. No. 33 Lambert, Harcwick Sur. Cg. 5,985 ft.; comp.; no report.

United Gas Co. No. 34 Lambert, Swisher Sur. Drlg. sh. 5,010 ft.

Hewitt & Daugherty No. 36 Lambert Swisher Sur. No. 5. T.D. 5,914 ft.; I.P. 750 B.P.D.

United Gas Co. No. 12 J. J. O'Brien. Drlg sh. 5,330 ft.

Quintana-O'Connor—Refugio County

Illinois Pet. Corp. No. 1 Heard, Ximines Sur. Drlg. 2,115 ft.; no report.

Quintana Oil Co. No. 4 Heard, T. H. Webb Sur. Drlg. 4,630 ft.; no report.

Quintana Oil Co. No. 42 O'Connor, Swisher Sur. T.D. 5,925 ft.; I.P. 1,800 B.P.D. through ¼-in. ck.

Keran—Victoria County

Gulf Oil Corp. No. 9 Keran, M. Delean Sur. Drlg. sh. 5,600 ft.

Placedo—Victoria County

American Liberty Oil Co. No. 5 Cortez, J. M. Brownson Sur. No. 8. T.D. 4,775 ft.; 7-in. csg. 4,748 ft.; D.D. to 4,769 ft.; I.P. 50 B.P.D. through ½-in. ck.

Barnsdall-American Liberty Oil Co. No. 6 J. M. Pickering, A. Murray Sur. T.D. 4,775 ft.; 7-in. csg. 4,756 ft.; I.P. 150 bbls. in 12 hrs. through 3/16-in. ck.

Barnsdall Oil Co.-American Liberty Oil Co. No. 7 J. M. Pickering et al, A. Murray Sur. Drlg. 800 ft.

Barnsdall Oil Co.-American Liberty Oil Co. No. 12 Pickering and Roos, S.A.&M.G. Sur. No. 5. Drlg. sh. 1,400 ft.

Crown Central Oil Co. No. 1 Lauder, S. A.&M.G. Sur. Drk.

Magnolia Pet. Co. No. 1 Sklar, S.A.&M. Sur. T.D. 4,768 ft.; 7-in. csg. 4,750 ft.; I.P. 75 B.P.D. through 9/64-in. ck.

Magnolia Pet. Co. No. 4 Sklar, S.A.&M.G. Sur. No. 7. Drk.

Ownby No. 4 Malek, S.A.&M.G. Sur. T.D. 4,770 ft.; 5½-in. csg. 4,762 ft.; W.O.C.

Clay Creek—Washington County

Sun Oil Co. No. 1 H. Lauter, N. Clay Sur. 7-in. csg. 7,445 ft.; swbd. and flwd. 1# bbls. oil in 10 hrs.; drlg. 7,800 ft.

Five Corners—Wharton County

Texas Co. No. 5-B Pierce, A. H. Pierce Sur. Drlg. sh. 5,524 ft.

Louise—Wharton County

Pure Oil Co. No. 4 Weaver, J. M. Brownson Sur. No. 22. T.D. 5,145 ft; I.P. 64 B.P.D.

Magnet—Wharton County

C. E. McDonald No. 1 Sweet, J. Smith & McKenzie Sur. Drlg. sh. 4,130 ft.

Pickett Ridge—Wharton County

Texas Co. No. 4 Nilson, I.&G.N. Sur. No. 37. Drlg. gumbo 1,330 ft.

Withers—Wharton County

Texas Co. No. 20-C Pierce, Caldwell Sur. Drlg. clay 188 ft.

Texas Co. No. 17-C Pierce, Wm. Pettus Sur. 7-in. csg. 5,551 ft.; P.B. 5,554 ft.; swbg.

Texas Co. No. 19-C Pierce, Wm. Pettus Sur. Drlg. sh. 5,565 ft.

GULF COAST WILDCATS

Austin County

R. I. Hopkins No. 1 J. W. Recnecke, J. Stephenson Sur. R.U.

W. H. Mitchell et al No. 1 F. Fenner, J. Fitzgibbons Sur. S.D. 3,812 ft.

Brazoria County

Beattr, Bowles and Borsodi No. 1 Truska Lot 4, Blk. 3, H.T.&B. Sur. 9⅝-in. csg. 6,438 ft; T.D. 9,000 ft.; reaming.

C. B. Bunte No. 1 Fite, D. Talley Sur. 10¾-in. csg. 1,030 ft.; coring sd. 6,500 ft.

Texas Co. No. 1 Robbins, J. W. Brougham Sur. 11¾-in. csg. 4,950 ft.; T.D. 6,813 ft., recovered drill pipe to 6,558 ft.

Calhoun County

Matagorda Oil Co. No. 1 Brundet, Tr. 8 Matagorda Island. 13⅜-in. csg. at 1,826 ft.

Chambers County

Laverne Deeker No. 1 Johnson, M. O. Perkins Sur. No. 30. 10¾-in. csg. 1,395 ft.; T.D. 7,664; abd.

Sun Oil Co. No. 2 Hamilton, J. T. White Sur. 13⅜-in. csg. 1,385 ft.; T.D. 8,849 ft.; 8⅝-in. csg. at 8,715 ft.; set cmt plug from 8,869-8,750 ft.; changing blow-out preventer.

Colorado County

Coyle-Concord & Sterling No. 1 Mary E. South, I.&G.N. Sur., sec. 41. T.D. 6,188 ft; 5½-in. csg. 6,187 ft.; P.B. 6,055 ft.; S.D.

Eden Oil Co. No. 1 Trulia Wells, M. Whitting and Osborne League. Drk.

Fayette County

McNeil Pet. Co. No. 1 Dybla, A. Thompson Sur. Drk.

Fort Bend County

Sam Harrison No. 1 Victor Horak, H.&T. C. Sur. No. 36. T.D. 7,025 ft.; abd.

Galveston County

Shell Pet. Corp. No. 1 Maco Stewart, Spillman Sur. 9⅝-in. csg. 7,707 ft.; T.D. 10,460 ft.; P.B. 4,628 ft.; S.D.

Grimes County

Fred Harris No. 1 J. C. Chaney, W. Donoho Sur. 10¾-in. csg. 100 ft.; drlg. sh. 3,113 ft.; no report.

Hardin County

T. S. Deskin No. 1 Mary B. Collier, O. C. Nelson Sur. Loc.

Harris County

Farrel and Cox No. 1 Bender, N. W. Travis Sur. S.D. 700 ft.

George Lawrence et al No. 1 Zoppa, J. Farwell Sur. 10¾-in. csg. 605 ft.; T.D. 6,525 ft.; S.D.

Stanolind O. & G. Co. No. 1 Warren Minerals, H.T.&B. Sur. No. 1. Drlg. sh. 1,660 ft.

Jefferson County

Humble O. & R. Co. No. 1 Jefferson Ld. Co., C. Hillibrant Sur. Drlg. 120 ft.

D. B. MacDaniel No. 1 J. N. Gilbert Est., J. Ricard Sur. T.D. 7,580 ft.; abd.

Sun Oil Co. No. 2 Broussard & Hebert, T.&N.O. Sur. T.D. 8,217 ft.; cmtd. csg.; drlg. out cement 7,478 ft.

Lavaca County

Cole Pet. Co. No. 1 Reed-Nollkamper, A. Smothers Sur. S.D. 2,395 ft.

Welshire Union Oil Co. No. 1-A Pohl, F. Bass Sur. S.D. 2,395 ft.

Liberty County

Kenco Oil Corp. No. 1 E. B. Pickett, H. T.&B. Sur. No. 10. R.U.

Matagorda County

Continental Oil Co. No. 1 Hawkins, D. McCarthy Sur. 10¾-in. csg. 1,621 ft.; T.D. 5,143 ft.; D.S. stuck; abd.

Continental Oil Co. No. 2 Robbins, J. C. Franz Sur. Drlg. sh. 4,600 ft.

Glenn McCarthy No. 1 Foley, sec. 19, Susan Perkins Sur. Spudded.

J. G. Mayo and Smith and McDannald No. 1 E. L. Calhoun, David Rawls Sur. T.D. 1,376; W.O.C.

Strake Pet. Co. No. 1 G. T. Sargent, L. E. Parker Sur. 13⅜-in. csg. 1,607 ft. T.D. 6,880 ft.; P.B. and sdtrkd.; drlg. sh. 6,193 ft.

Tetts & Harris No. 1 Pierce, Lot 23, W. E. Wallace Sur. Abd. 7,723 ft.

Montgomery County

Chapman No. 1 Foster, D. Pevy House Sur. 10¾-in. csg. 42 ft.; drlg. sh. 3,200 ft.

Refugio County

Circle W. Oil Co. No. 1 Bissett, John Croskett Sur. Drlg. sd. 5,490 ft.

Paul Meadows No. 1 Temple Lbr. Co., G. W. Main Sur. Drk.

Trinity County

Daniel E. Boone No. 1 Tullis, Wm. Watson Sur. S.D. 1,354 ft.

Cortez Oil Co. No. 1 V. and R. Kennedy, J. M. Prado Sur. R.U.

Tyler County

Republic Prod.-Houston Oil Co. No. 1 Hurd, Norman Hurd Lge. 16-in. csg. 47 ft.; 10¾-in. csg. 1,649 ft.; T.D. 7,796 ft.; P.B. 7,670 ft.

Victoria County

Magnolia Pet. Co. No. 1 Willie Beck, T. &N.O. Sur. 13⅜-in. csg. 920 ft.; T.D. 4,812 ft.; P.B. 4,100 ft.; 7-in. csg. 4,100 ft.; tstd. gas and S.W.; P.B. 3,700 ft.; perf. csg. 3,575-85 ft.; comp. for 25,000,000 feet of dry gas daily.

Plymouth Oil Co. No. 1 J. J. Welder, S. A Balding Sur. T.D. 6,648 ft.; P.B. to 900 ft.; sidetracking.

Walker County

Garland, Hartman & Page No. 1 Carey Ld. & Dev. Co., D. M. McDonald Sur. R.U.

Roswell Oil Co. No. 1 J. Bosborn, J. Jordan Sur. S.D. 520 ft.

Waller County

Sumas Prod. Co. of Austin No. 1 J. J. Menker. Loc.

Washington County

Smith & Schlinke No. 1 Woode, J. Clark Sur. Drlg. 510 ft.

Stapper Pet. Corp. No. 1 W. H. Hoxie, S. Clampit Sur. Abd. 3,142 ft.

S. W. TEXAS WILDCATS

Aransas County

Barnsdall Oil Co. No. 1 Kate J. Edwards. 80 ft. W line, 330 ft. S line, Lot. 87, Lamar Townsite, Wm. Lewis Sur. Drlg. 7,023 ft.

Atascosa County

Frontier Oil Co. No. 1 Oppenheimer, John Sharp Sur. Drlg. 1,607 ft.

Helvetia Oil Co. No. 2 S. Pratt, 333 ft. SE and SW lines tr., Garza Sur. 44. Top Serp. 3,085 ft.; T.D. 3,460 ft. P.B. 3,085 ft.; S.D.

L. G. Priest No. 1 Sanders, Garmon Sur. T.D. 1,180 ft. (cor.) S.D.

R. J. Roberts et al No. 1 Elder, 330 ft. N and W. line, Sur. 190. R.U.

Bandera County

A. T. Crane No. 1 Watson, Sur. 71. S.D. 2,035 ft.

Bastrop County

Illinois Pet. Co. No. 1 Hill, 6 mi. N of Cedar Creek. T.D. 1,400 ft.; D.&A.

Bee County

Renson & Jones No. 1 Ray, Anna Burk Sur. Stdg. 4,911 ft.

Blanco County

E. L. Nixon No. 1 Hornberger, 1,200 ft. S line, 300 ft. E line, Sur. 723. Drlg 447 ft.

Brooks County

California Co. No. 1 Jones, 19,800 ft. S line, 4,500 ft. W line, La Mestina Gr. Cg. 3,431 ft.

Douglass & Burden, Inc., No. 1 Haller, 300 ft. S and W lines, Sur. 436. S.D. 930 ft.

Burleson County

M. R. Exploration Co. No. 3 Fountain, Wm. Raleigh Sur. M.I.M.

Red Bank Oil Co. No. 1 Grann, 2,875 ft. S line, 1,500 ft. E line. E. Santel Sur. T.D. 6,241 ft.; swbd. sulfur wtr. and some oil; D.&A.

Caldwell County

Browne Drlg. Co. No. 1 Blackwell, 409-ac. tr., J. Row Sur. Bailing oil; top Buda 2,171 ft.; T.D. 2,198 ft.; comp. 40 B.P.D.

DeWitt County

Glaspie et al No. 1 Olsen, 70-ac. tr., A. Dillard Sur. T.D. 651 ft.; D.&A.

Duval County

Argo Oil Co. & John Clopton No. 1 Smith Corkill, C E¼ Sur. 61. Cg. sd. 2,962 ft.

Atlantic Ref. Co. No. 1 Hamilton, sec. 37. Loc.

J. B. Blanchard No. 1 Dinn, 330 ft. N and E lines, Sur. 462. Sd. 2,533-38 ft.; D.S.T. showed S.W. and S.O.; drlg. 3,271 ft.

Hiawatha Oil Co. No. 1 Southland Life Ins. Co., 330 ft. S and E lines, sec. 15, Agua Poquita gr., Dlg. 3,011 ft.

Kearny, Gravis et al No. 1 Holzapfel, sec. 42. M.I.M.

Magnolia Pet. Co. No. 1 D.C.R.C., 330 ft. S and W lines, lsc., sec. 902. Loc.

Oliver Oil Co. No. 1 Shaffer, Sur. 146. Spudded.

Albert Plummer No. 1 Danmier, 990 ft. S line, 330 ft. W line, NE¼ Sur. 58. T.D. 3,800 ft.; M.I. larger rig.

Edwards County

I.T.I.O. No. 1 Love & Evans, sec. 66, Blk. 3, G.W.T.&P. Ry. Sur. (Workover). Prep. deepen from O.T.D. 3,002 ft. to 6,250 ft.

Plateau Oil Co. No. 1 R. L. Hatch, sec. 66; J. W. May Sur. S.D. 4,750 ft.

Fayette County

McNeil Pet. Co. No. 1 Dybola, A. Thompson Lge. R.U.

Goliad County

Rual Singer No. 1 C Wood, Geo. Villa Sur. Loc.

Gonzales County

M. S. Holliday No. 1 Edwards, W. W. Page Lge. Sd. 562-69 ft.; S.O.; S.D.

Guadalupe County

Long & Ross No. 1 Feltz, Dunn Sur. T.D. 633 ft.; S.O.; S.D.

Gordon MacKenzie No. 1 Halm, 300 ft. N. line, 150 ft. W line, J. Kent Sur. D.&A.; T.D. 1,814 ft.

Hidalgo County

Dale Smith No. 1 Fairbanks & Young, Blk. 44, Porc. 46, jurisdiction of Reynosa. Drlg. 1,892 ft.

Sun Oil Co. No. 1-A Sweeny Est., Lot 1, Wayne Wood Subd. No. 2. Cg. 6,384 ft.

Jim Hogg County

Gifford Oil Co. No. 1 Armstrong, Sur. 43. M.I.M.

S. Payne No. 1 Holbien, 150 ft. N and W lines, Blk. 10, Sh. 3, Animas Gr. R.U.

Jim Wells County

Gifford Oil Co. No. 1 Armstrong, Sur. 43. Loc.

Gist & Graddy No. 1 Owens, 660 ft. N line, midway E and W lines Sur. 151. Set 7-in. csg. 2,340 ft.; fsg. 5,312 ft.

G. Tzelmella (Putnam & Stewart) No. 1 Canales, C Blk. 32, Mosser Subdn. (reinstated). S.D. 5,036 ft.

Karnes County

De Graff & Reele No. 1 Cochran, 460 ft. E line, 160 ft. S line, McConnell Lge. S.D. 460 ft.

Kerr County

S. W. Forrest No. 1 J. W. Baily, 1,000 ft. N line, 330 ft. E line, Brendle Sur. S.D. 723 ft.

LaSalle County

W. H. Vernon No. 1 Las Ablas ranch, 150 ft. N line, midway E and W lines, sec. 726. S.D. 800 ft.

Lee County

Pedersen et al No. 1 Turner, David Hudson Sur. T.D. 6,560 ft.; milling 3,600 ft. to sdtrk.

Live Oak County

J. H. Durbin No. 4 Marbach, S. Hays Sur. T.D. 922 ft.; P.B. 902 ft.; swbd., w.w.

Hagen & Stewart No. 1 S. A. Joint Stock Ld. Bank, 800-ac. tr., John Turner Sur. S.D. 860 ft.

Loma Oil Co. No. 2 Cardwell, 95-ac. tr., Sparks Sur. Loc.

Loma Oil Co. No. 1 Reagan, 1,800 ft. N highway, 350 ft. E line, 1,182-ac. tr., Turner Sur. R.U.

Martell & Sterett No. 1 Whitsett Townsite, Blk. 55, J. Houghlingan Sur. Drlg. 807 ft.

Posey & Rountree No. 1 Turner, 510-ac. tr., S. Hays Sur. S.D. 1,100 ft.

V. G. Schimmell No. 1 Geo. West, C 150-ac. tr., J. Poitevent Sur. 231. Drlg. 512 ft.

McMullen County

E. M. Jones No. 1 Ezell, 160-ac. tr., sec. 3, Thos. Adams Sur. D.S.T. 1,179-91 ft. blew out and shut in; capped.

E. M. Jones No. 2 Ezell, 330 ft. W line, 990 ft. N line, 160-ac. tr., sec. 13, Fadden Sur. R.U.

Martell Pet. Co. and Sterrett No. 1 Whitsett Townsite. Drlg. 821 ft.

Rowan & Hope No. 1 Rhodes, NE¼ sec. 18, Seale & Morris Sur. M.I.M.

Medina County

A. Chmel No. 1 Odem, 160 ft. W line, 493 ft. N line tr., Castro Sur. 174. M.I.M.

R. P. Whitfield No. 1 Odem, Henry Castro Sur. 177. Cg. 697 ft.

W. H. Wycoff No. 1 Bendele, 1,275 ft. W line, 150 ft. N line, Joe Barnhart Sur. 593. Drlg. 316 ft.

Nueces County

Allen and Seaboard Oil Corp. No. 1-A Chapman, 1,320 ft. N and E lines, sec. 40; (W.O. of old Texas Seaboard test); old T.D. 5,506 ft.; drlg. 5,762 ft.

W. F. Morgan No. 1 Oliver Bird, 330 ft. S and W lines, 132-ac. tr., Oliver Sur. 162. Drlg. 4,057 ft.

Renwar Oil Corp. No. 1 Willoughby, 3,500 ft. SE N cor. 860-ac. tr., 330 ft. Petrovilla tr., sec. 4-G, Garret Subd. T.D. 6,002 ft.; D.&A.

Sloan & Green No. 1 Cassens, sec. 26, Longorio Sur. M.I.M.

Steve Paul No. 1 Smith, 1,650 ft. E line, 330 ft. S line, sec. 38, Flour Bluff Encinal Trs. Loc.

Teague et al No. 1 Poenisch, Lot 2, Blk. 32, Flour Bluff Addn. (workover of former Hurlburt test). O.T.D. 6,250 ft., R.U.

Wellington Oil Co. No. 1 Stockton, 300 ft. S and W lines NE¼ sec. 25. T.D. 7,005 ft.; reperf. 4,885-92 ft.; making wash water, mud and gas.

Real County

Sun Oil Co. No. 1 Dietert, 1,980 ft. E line, 660 ft. S line, sec. 7, G.W.T.&B. Sur. Drlg. 2,457 ft.

San Patricio County

W. B. Craig No. 1 Nelson, 471 ft. NE line, 466 ft. SE line, S¾, sec. 7, 1st Addn. Loc.

L. A. Douglas and J. O. Williams No. 1 Kokernot, 90-ac. tr., sec. 19. Spudded.

Eleanor Oil Co. No. 1 W. W. Toland, sec. 15, Blk. A, Coleman-Fulton Pasture Subd. Loc.

Golding & Fearis No. 1 Turner, 330 ft. S and E lines, Blk. 6, Masterson Subd. Drlg. 3,653 ft.

Hooper-Rutherford, Inc., No. 1 J. D. Willis, 466 ft. S and W lines tr., Williamson Sur. D.&A. 7,547 ft.

Windsor Oil Co. No. 1 Bissett, Tr. 3, Tivoli Subd., Crockett Sur. Loc.

Starr County

J. F. Anderson No. 1 Yzagierre, Tr. 1, Porc. 79, J. of Camargo. T.D. 2,910 ft.; S.D.

H. L. Bass No. 1 Haden, 3,740 ft. S line, 555 ft. W line, Sh. 47, Porc. 80. Set 5½-in. csg. 1,336 ft.; P.B. 1,308-15 ft.; sd. 1,300-08 ft.; perf. and comp.; gasser.

J. H. Brower No. 1 Saenz, Sur. 363. S.D. 150 ft.

F. Davenport No. 1 Kelsey-Bass, 534 ft. S line, N 585-ac. tr., 2,856 ft. E line, Porc. 87. Set 1,000 ft. of surf. csg.; no report.

Davenport-Slick-Urschel No. 1 Slick Est., Davenport ranch, sec. 485. Sd. 5,571-83 ft.; good odor oil and gas; S.D.

R. A. Mitchell No. 2 Bass, Sur. 8, Porcs. 75-77. Drlg. sh. 4,827 ft.

Moss & Heard No. 1 Ricaby, 1,500 ft. N of Highway No. 4, Porc. 83. Oil sd. 1,308-20 ft.; set 7-in. csg. 1,308 ft.; drlg. plugs.

Sun Oil Co. No. 1 Orr, 330 ft. N and W lines, Porc. 103. Set csg. 94 ft.; T.D. 3,517 ft.; P.B. 2,679 ft.; tested S.W. at 2,130-40 ft.; S.D.

Webb County

American Texas Oil Co. No. 1 McKendricks, Porc. 46. Drlg. 2,552 ft.

Frank Gravis No. 1 Villareal, Sur. 2,260. Cg. 1,127 ft.

O. W. Killam No. 1 fee, Sur. 1,690. Loc.

Lu-Tex Oil Co. No. 1-A Lone Star Constr. Co., Blk. 26, Porc. 12, 13 and 14. Drlg. 1,521 ft.

Morgan Kirkwood No. 1 Frost Natl. Bank, Sur. 734. Drlg. 1,063 ft.

Paul Meaders No. 1 Garcia, Blk. 12, Sur. 1,101. Drlg. 263 ft.

Smith & Storey No. 1 Oppenheimer, Sur. 34. Spudding in.

Smith & Taggart No. 1 Jones, Sur. 674. Drlg. 1,023 ft.

Superior Oil Co. No. 1 Masterson, 330 ft. S and W lines, Sur. 35. D.&A. 2,035 ft.

Wilcox O. & G. Co. No. 1 Dunbar, Sur. 2,292, J. Galen Gr. Loc.

Wilcox O. & G. Co. No. 1 Puig, Serna Blanca Pasture, Galan Gr., Sur. 2,182. Drlg. 5,017 ft.

Willacy County

Ruez-Morton, Inc., No. 1 F. Armendiaz C Lot 9, Sh. 4, San Juan de Carricitos Gr. M.I. rig.

Ruez-Morton, Inc., No. 1 Johnson-Stillman, Lot 14, Blk. 25, Sh. 44, San Juan de Carricitos Gr. Loc.

Zapata County

Allison et al No. 1 Bustamante, Sh. 18, Comitas Gr. Sd. 1,144-51 ft.; rng. csg.

Ivan Howard and R. F. Duggan No. 1 Cuellar Bros., Sur. 248. R.U.

Jennings No. 1 Martinez, Sur. 434. T.D 150 ft.; S.D.

J. D. Long No. 1 Phelps, 200-ac. tr., Villa Gr. Drlg. 1,521 ft.

Mills Bennett Prod. Co. No. 1 Flores, Porc. 87. Spudded.

Zavalla County

Wilcox O. & G. Co. No. 1 Gilliman. sec. 11. Drlg. 614 ft.

S. W. TEXAS PROVEN

McCampbell—Aransas-San Patricio

Counties

Atlantic Ref. Co. No. 2-C McCampbell, 330 ft. SE line, 1,650 ft. SW line, lse., Lot 9, Blk. 40. R.U.

Buckingham Oil Co. No. 2-A McCampbell, sec. 42, McCampbell Subd. Set sur. csg. 1,421 ft.

J. Nelson No. 1 Riggs, 330 ft. NW line 213 ft. SW line, 6.46-ac. tr., Trs. 12 and 13, Blk. 16. Loc

Hilbig—Bastrop County

Joe E. Mills No. 1 Askew, 600 ft. NW line, 1,525 ft. SW line, 278.5-ac. tr Wolfenberger Sur. T.D. 2,907 ft.; S.D.

Caesar—Bee County

Luling O. & G. Co. No. 2 Borroum, 450-ac. tr., Baker Sur. T.D. 3,078 ft.; D.&A.

Cosden—Bee County

Elwood & Young No. 3 Barnett, John Place Sur. Sd. 3,636-53 ft.; S.O.; P.B. 3,96(ft.; T.D. 4,050 ft.; S.D.; W.O.O.

Plummer—Bee County

W. C. McBride No. 1 Plummer, 34-ac. tr., sec. 33, Plummer-Chessman Sur. Loc.

Gas Ridge—Bexar County

American Gas Co. No. 5 Oliver, 400-ac. tr., Rodriguez Sur. Sd. 3,285-3,309 ft.; S.O.; drlg. 3,362 ft.

Alta Verde—Brooks County

L. & W. Oil Co. No. 1 Wm.Singer, Blk. 8, Sur. 436. S.D. 185 ft. (cor.).

Branyon—Caldwell County

Adams & Lyles No. 3 Ellison, D. Coope Sur. Cg. 2,047 ft.

Taylor Pet. Co. No. 1 Caldwell County, 4-ac. tr., D. Cooper Sur. Drlg. 566 ft.

McCrory—Caldwell County

Whisenant & Trenchard No. 1 McGee, Joh Nell Sur. T.D. 2,137 ft.; top chalk 1,984 ft.; set 5½-in. csg. 2,000 ft.; blew out making est. 1,500 B.P.D. of P.L.O., 38 grav.; controlled and flwg. into storage.

Charamousca—Duval County

H. V. Duncan No. 2 Worden & Draught, Sur. 151. T.D. 1,700 ft.; D.&A.

Colmena—Duval County

Conservative Oil Co. No. 2 D.C.R.C.-Sents 133 ft. N Eline, 1,200 ft. SE line, Blk. 13 sec. 51. S.D. 1,544 ft.

Driscoll—Duval County

Continental Oil Co. No. 13-A Sevier, Su 448. M.I.M.

El Mesquite—Duval County

Hamil & Smith No. 3 J. Benavides. Subd 2, El Mesquite Gr. Drlg. sh. 3,166 ft.

Rogers & Rogers No. 3 Pena, El Mesquite Gr. R.U.

Government Wells—Duval County

Magnolia Pet. Co. No. 1 Hahl, Sur. 41. Sd. 2,410-16 ft.; tstd. S.W.

Ralph Ogden No. 10 B.C.C., N½, S½, Sur 135. Tstg. 2,455 ft.

San Diego Oil Corp. No. 5 Bennett, 330 ft. N and E lines, SE¼, SW¼, Sur. 44. Drlg. 1,823 ft.

Southwest Drlg. Co. No. 1 Hahl, Sur. 64. Set csg. on sd. 2,537 ft.; drlg. plugs.

Hoffman—Duval County

Bridwell Oil Co. and Gorman-Yoakam Drlg. Co. No. 1 Martinez, Sur. 118. Set csg. on sd. 2,796-2,802 ft.; D.&A.

Bridwell Oil Co. No. 5-B Sutherland, Sur. 112. Loc.

Kohler—Duval County

Humble O. & R. Co. No. 54-A Kohler, 330 ft. N and E lines, sec. 164. Drlg. sh. 2,457 ft.

Humble O. & R. Co. No. 2 Peters, 330 ft N and W lines, Sur. 398. D.S.T. 2,642-60 ft.; 1,300 ft. oil in 20 min.; shut in.

Sun Oil Co. No. 1 Peters, 330 ft. S and W lines, Sur. 161. Set csg. 2,646 ft.; W.O.C.

Labbe—Duval County

Magnolia Pet. Co. No. 2 Labbe ranch, 990 ft. S and W lines, sec. 1. Drlg. 117 ft.

Loma Novia—Duval County

Eastern Texas Prod. Co. No. 5 Hubbard Sur. 71. R.U.

Humble O. & R. Co. No. 25-B Hubbard. Sur. 33. Sd. 2,752-60 ft.; comp.; 11.4 B.P.H.

Humble O. & R. Co. No. 32-B Hubbard. Sur. 72. Loc.

Humble O. & R. Co. No. 45-B Hubbard, Sur. 72. Drlg. 2,193 ft.

Humble O. & R. Co. No. 64-B Hubbard. E½, sec. 42. T.D. 2,783 ft.; swbg.

Humble O. & R. Co. No. 19 Ruiz, Sur. 553. T.D.; oil sd. 2,744 ft.; W.O. pmp.

Humble O. & R. Co. No. 20 Ruiz, Sur. 553. Drlg. 127 ft.

Humble O. & R. Co. No. 14 Vela, Sur. 42 Sd. 2,773-82 ft.; comp.; 6 B.P.H.

Magnolia Pet. Co. No. 52 Hahl, Sur. 67. Sd. 2,724-37 ft.; comp. est. 40 B.P.D.

Magnolia Pet. Co. No. 53 Hahl, Sur. 67. M.I.M.

Magnolia Pet. Co. No. 8 Herbst, Sur. 70 Sd. 2,715-27 ft.; comp.; 35 B.P.H.; T.D. 2,734 ft.

Rosan Oil Co. No. 4-A Hubbard, Sur. 71 M.I.M.

Texas Co. No. 18 Bishop, 990 ft. N and E lines, sec. 57. Comp.; est. 12 B.P.H.; T.D. 2,588 ft.

Lopez—Webb—Duval Counties

Cox & Hamon No. 11 Peters, Sur. 322. Comp. 15 B.P.H.; T.D. 2,174 ft.

Cox & Hamon No. 35 Peters, Sur. 322. Comp.; 15 B.P.H.; S.D. 2,162-5 ft.

Cox & Hamon No. 42 Peters, Sur. 322, Sd. 2,149-54 ft.; comp. 20 B.P.H.

Gem Oil Co. No. 2 Peal, Sur. 72. M.I.M.

Harroun No. 1-A Lopez, Sur. 119. Set csg. 2,259 ft.; tstd. S.W.; cg. 2,-T.D. 2,275 ft.; comp. 9 B.P.H.

Humble O. & R. Co. No. 1 D.C.R.C., Sur 901. Loc.

Humble O. & R. Co. No. 2-C D.C.R.C., 330 ft. S line, 3,848 ft. E line, sec. 901. Set csg. 2,086 ft.; T.D. 2,091 ft.; comp. gasser.

Humble O. & R. Co. No. 4-C, D.C.R.C. Sur. 901. Drlg. 317 ft.

Magnolia Pet. Co. No. 1 D.C.R.C. Sur. 902. R.U.

Magnolia Pet. Co. No. 29 Peal, Sur. 383. Comp. 16 B.P.H.; T.D. 2,165 ft.

Mills Bennett Prod. Co. No. 1 Paula Vela, Sur. 114. Comp. 20 B.P.H. on ½-in. ck.; T.D. 2,237 ft.

Mills Bennett Prod. Co. No. 2 Paula Vela Sur. 114. Comp. 5 B.P.H., 2,258 ft.

J. E. Thomas No. 1 Peal, Sur. 794. T.D. 2,500 ft.; dry sd.: rng. Schlumberger.

Peters—Duval County

Windsor Oil Co. No. 5-B Peters, Sur. 34. Loc.

Piedra Lumbre—Duval County

Magnolia Pet. Co. No. 10 D.C.R.C., Sur 95. T.D. 2,598 ft.; P.B. 1,625 ft.; set csg.; W.O.C.

Seven Sisters—Duval County

W. W. Blocker No. 3 Benton-Coopwood, Sur. 382. Spdd.

Humble O. & R. Co. No. 18 Badgley, Sur. 307. T.D. 2,477 ft.; comp. 35 B.P.D.

Humble O. & R. Co. No. 19 Badgley, Sur. 307. Comp. 26 B.P.D.; T.D. 2,455 ft.

Humble O. & R. Co. No. 2 Dowdy. Drlg. hd. sd. 1,789 ft.

Humble O. & R. Co. No. 41 Smith, Sur. 382. Drlg. sh. 2,394 ft.

Humble O. & R. Co. No. 37 Smith, Sur. 382. Pulling screen and lnr.; T.D. 2,-450 ft.

Humble O. & R. Co. No. 39 Smith, Sur. 382. Sd. 2,442-50 ft.; set csg.; T.D. 2,452 ft.; comp. 10 B.P.H.

Humble O. & R. Co. No. 40 Smith, Sur. 382. Comp. 13 B.P.H.; T.D. 2,458 ft.

Reliance Oil & Roy. Co. No. 19 Drummond. Sur. 308. Drlg. 1,273 ft.

Texas Co. No. 7 Badgley, Sur. 307. Set csg. 2,478 ft.; comp. 45 B.P.H. on ¼-in. ck.

Wellington Oil Co. No. 22 Welder, Sur. 383. Comp. 14 B.P.H. on ⅜-in. ck.; T.D. 2,480 ft.

Wellington Oil Co. No. 23 Welder, Sur. 383. Loc.

Westheimer & Daube No. 27 Campos, Sur. 224. Comp. 21.44 B.P.H. on ½-in. ck.; S.D. 2,666-2,710 ft.

Westheimer & Daube No. 28 Campos, Sur. 224. Loc.

Pearsall—Frio County

Amerada Pet. Corp. No. 8 Halff & Oppenheimer, S. A. Ditch Sur. 1,104. T.D. 6,230 ft.; set csg. 6,119 ft.; blew out making est. 10,000,000 ft. gas; closed in; flowed 1,500,000 ft. gas and dist.

Amerada Pet. Corp. No. 7 Oppenheimer. 1,-320 ft. W line, 330 ft. S line, Gibson Sur. 16. (W.O.); swbg. in 5,573 ft.

North Pettus—Goliad-Karnes Counties

Bostex Oil Co. No. 3 Runge Loan Bank, 330 ft. SW & SE lines lease, Meyer Sur. Drlg. 3,553 ft.

Bostex Oil Co. No. 4 Runge Loan Bank, 330 ft. SE line, 810 ft. NE line, lease, B.&B. Sur. 26. S.D. 3,706-15 ft.; swbg.

Diamond Halff Oil Co. No. 1-C Gillette, 745-ac. tr., J. Gomez Sur. Sd. 3,668-3,-876 ft.; completing.

Magnolia Pet. Co. No. 5 Weldon, 210-ac. tr., J. Gomez Sur. T.D. 3,751 ft.; comp. 12.3 B.P.H. on 3/64-in. ck.

Sun Oil Co. No. 7 Scarbrough, B.&B. Sur. Sd. 3,682-96 ft.; completing.

Clark—Guadalupe County

Diamond Halff Oil Co. No. 2 Larison, G. DeWitt Sur. Spudded.

Doody Oil Co. No. 2 Lay, Davis Sur. T.D. 2,417 ft.; comp.; no gauge.

Marts & Bevins No. 2 Grim, G. DeWitt Sur. 13. Drlg. plug. 2,426 ft.

Darst Creek—Guadalupe County

Freeman Oil Co. No. 1 Larison, G. DeWitt Sur. 13. T.D. 2,410 ft.; W.O. pump.

V. G. Schimmel No. 2 Grimm, Dewitt Sur. T.D. 2,525 ft.; W.O. pump.

Mercedes—Hidalgo County

Union Sulphur Co. No. 10 American Rio Grande L. & L. Co., Blk. 50, Tr. 2,418, N. Caprisallo Dist. T.D. 8,306 ft.; stdg.

LaBlanca—Hidalgo County

Pantana Pet. Co. No. 1-B Engleman, Lot 8, sec. 249. Set csg. 6,805 ft.; perf. 6,666-83 ft.; flowed est. 20 B.P.D. of dist. and 5,000,000 ft. gas on ¼-in. ck.

Pantana Pet. Co. No. 1 MacDougall, Lot 232, sec. 249. Cg. 7,906 ft.

Samfordyce—Hidalgo-Starr Counties

E. A. Graham No. 1 Yturria Ld. & Livestock Co., Tr. 9, Porc. 100. Cg. 2,872 ft.

Harrison & Danvers No. 4-A Guerra, 30.78-ac. tr., Tr. 251, Porc. 38. Spudded.

Henshaw Bros. No. 2 Chapa, Tr. 250, Porc. 39. Sd. 2,942-54 ft.; set csg. 2,956 ft.; W.O.C.

Colorado—Jim Hogg County

J. H. Meek, No. 3-A Martinez, 1,650 ft. E line, 1,550 ft. N line, Sur. 623. M.I.M.

Bentonville—Jim Wells County

La Jita Corp. No. 3 Bowers, 990 ft. N and E lines, sec. 14. Drlg. 4,811 ft.

King—Jim Wells County

Stanolind O. & G. Co. No. 3 King, 990 ft N, 330 ft. E. NE cor. sec. 20, in sec. 9. Loc.

Premont—Jim Wells County

Francis & Simonton No. 1 A. Lozana, Jr., 185 ft. E line, 165 ft. S line, Lot 111, sec. 36. Cg. 2,325 ft.

Tom Graham and Gilcrease Oil Co. No. 1 Escobar, 330 ft. N and E lines, Blk. 4, sec. 25, Buffalo-Tex Subd., Escobas ranch. Cg. 3,221 ft.

Tom Graham No 1 Wm. Singer, C Lots 71 and 74, Sur. 76. T.D. 3,400 ft. P.B. 3,163-67 ft.; perf. 3,157-64 ft.

Sandia—Jim Wells County

Geo. Smith No. 1 Wade, Lot 2, Wade ranch. Drlg. 1,017 ft.

J. E. Walsh No. 2 Wade, Lot 2, Blk. C, Bode Subd. Stdg. 2,883 ft.

Kingsville—Kleberg County

Great States Oil Co. No. 1 Kivlin, Blk. 4, sec. 39. Drlg. 323 ft.

Lucas—Live Oak County

Houston Oil Co. No. 37 Cartwright. 1,300 ft. W, 300 ft. S, No. 35, F. Botillo Sur. Drlg. 2,207 ft.

Oakville—Live Oak County

Simmons O. & G. Co. No. 1 Reagan, Romero Sur. Cg. 1,706 ft.

Calliham—McMullen County

W. P. Howard No. 6 Claunch, M. Hely Sur. Cg. 427 ft.

Loma Oil Co. No. 107-A Jacob, Sur. 516. Spudding in.

National Pet. Co. No. 2-B Lark, Jacob Sur. Drlg. 135 ft.

Rhodes—McMullen County

Humble O. & R. Co. No. 3 Edrington, SE¼ Sur. 59. Drlg. sh. 1,793 ft.

Ina—Medina County

Ina O. & R. Co. No. 3 Viola Wilson, Durst Sur. Drlg. 400 ft.

Agua Dulce—Nueces County

Lockhart Bros. No. 1 Elliff, 4,501 ft. E line, 466 ft. S line, 3,054.9-ac. tr., Antonio Longorio Gr. Drlg. 4,713 ft.

Stoddart & Moss No. 1 Colman, 330 ft. NW and NE lines, SE¼ SW 330-ac. tr., sec. 206. S.D. 6,885 ft.; blew out and closed in; to attempt comp. through drill stem.

Texon Drlg. Co. No. 1 Elliff, 466 ft. E line, 2,194 ft. S line, 3.054-ac. tr., A. Longorio Gr. (W.O.); D.&A.

Texon Drlg. Co. No. 2 Elliff, 5,580 ft. S line, 466 ft. E line, 3,054.9-ac. tr., Antonio Longorio Gr. Loc.

Texon Drlg. Co. No. 2-B Sevier, 880-ac. tr., W. W. Chapman Lds., Palto Alto Gr. Set 16-in. csg. 300 ft.; drlg. 2,020 ft.

United Prod. Co. No. 1 Harvey, 1,100 ft. W line, 1,050 ft. N line, tr., M. Garza Sur. Drlg. 3,525 ft.

Clara Driscoll—Nueces County

Blanco Oil Co. and Buchanan No. 1 W. S. Gandy, 330 ft. S and W lines, E½ sec. 60. Drlg. 5,997 ft.

Hiram Reed No. 2 Roper, C Lot 1, sec. 108. Perf. 3,901-05 ft.; gas and wtr.; to P.B. and perf. in 3,800-ft. sd. W.O.W.

Mid-Continent Pet. Corp. No. 1 Driscoll-Sevier, 330 ft. S and W lines, 160-ac. tr., E. Russel Sur. T.D. 3,819 ft.; comp., no gauge.

H. M. Reed No. 1 Holloway, 330 ft S and E lines, 51.8-ac. tr., sec. 108. S.D. 3,780 ft. (cor.).

Wellington Oil Co. No. 1-A Sevier, 125-ac. tr., Wm. Gamble Sur. Set csg.; T.D. 6,075 ft.; perf. 5,422-27 ft.

Wellington Oil Co. No. 9 Sevier, Wm. Gamble Sur. Sd. 3,793-3,802 ft.

Flour Bluff—Nueces County

Humble O. & R. Co. et al No. 1 Cordes, C Lot 12, Blk. 48. R.U.

Humble O. & R. Co. et al No. 1 Johnson, Blk. 22, sec. 48. Set csg. on sd. 6,650 ft.; comp. 6 B.P.H. on ¼-in. ck.; T.D. 6,660 ft.

Humble O. & R. Co. et al No. 4 Phillips, C Lot 1, Blk. 55. T.D. 6,550 ft.; prep. ream.

Humble O. & R. Co. et al No. 5 Phillips, C Lot 6, Blk. 48. Set csg. 1,055 ft.; W.O.C.

Humble O. & R. Co. et al No. 2 Robertson, Lot 24, Blk. 47. Drlg. sh. 1,057 ft.

Humble O. & R. Co. et al No. 1-A Thompson, Lot 3, Blk. 55. Drlg. sh. 749 ft.

Humble O. & R. Co. et al No. 2 Webb, Blk. 47. Set csg. 6,657 ft.; W.O.C.

S. Paul No. 1 Moulter, Blk. 16, sec. 41, Encinal Garden tracts. Loc.

King—Nueces County

Stanolind Oil & Gas Co. No. 3 R. King, sec. 9, King Farm Subd. Spudded.

Saxet Heights—Nueces County

Callihan Bros. and Whitley No. 1 Hartley, Villareal Sur. R.U. and S.D.

Genro & Roosth No. 1 Caddell, C Lots 3, 4 and 5, Blk. "D." Harbor View Ests. Sd. 4,045-80 ft.; P.B. 3,873 ft.; to sdtrk.

Long et al No. 1 Wallace, 200 ft. S. line, midway E and W lines tr., Villareal Sur. T.D. 4,085 ft., swbg.

Chas. F. McGrew No. 3 Kelly, 19-ac. tr. Sd. 4,060-90 ft.; set csg.; S.O. jetted S.W.; S.D.

Morgan Bros. No. 2 Bender, Blk. C, Harbor View Estates. T.D. 4,085 ft.; failed to flow; S.D.

W. N. Paul No. 2 Schallert, C Blk. "C," Harbor View Addn. S.D. 1,800 ft.; W.O.

Pedernal Oil Co. No. 1 John, Blk. 14, Oak Park Addn. S.D. 4,110 ft.; orders.

Port Oil & Gas Co. No. 3 Corpus Christi College, 500 ft. S No. 2, Villareal Sur. R.U.

Port O. & G. Co. No. 10 Country Club, Lot 13, 26½-ac. tr., Rincon del Oso Sur. Cg. 4,042 ft.

J. D. Proctor No. 1 Simonton, 100 ft. E line, 68 ft. N line, 1-ac. tr., Lots 46 and 47, Country Club Pl. Sd. 4,070½-83 ft.; set csg.; completing.

Renwar Oil Co. and Maryland Corp. No. 2 Golla, 19.3-ac. tr., Villareal Sur. Sd. 4,048-90 ft.; set csg.; drlg. plugs.

Ben F. Smith No. 1 Whelan, 10-ac. tr., Villareal Gr. Sd. 4,055-75 ft.; comp. 84 B.P.D.

Taylor Pet. Co. No. 2 Incarnate Word College, 40-ac. tr., Villareal Gr. T.D. 5,-429 ft.; D.&A.

Sam Wilson No. 1 Henderson, 125-ac. tr., Blk. 4, Oak Park Addn. Perf. 4,082-85 ft.; comp. 16 B.P.H. on ¼-in. ck.

Sam Wilson No. 1 McCaughan, Blk. 2, Oak Park Addn. Spudded.

Saxet—Nueces County

Allen & Morris No. 1 Hocker & Sevier, 330 ft. N Shell Rd., 330 ft. W line, 100-ac. tr. Sd. 4,823-40 ft. Tested 600 ft. oil Set 7-in. csg. 4,833 ft.; W.O. pmp.

C. Andrade No. 2 Rand Morgan, Sur. 592. Sd. 4,554-75 ft.; completing.

Baltic Drlg. Co. (Reesto) No. 2 Harmon, 50 ft. SW No. 1, Sur. 416. S.D. 5,753-62 ft. Set csg.; W.O.C.

Benson Drlg. Co. No. 1 Morgan, 330 ft. N and W lines, 40-ac. tr., Sur. 315 (W.O.). Old T.D. 4,483 ft.; R.U. to D.D.

Ben-Tex Oil Co. No. 2 Harmon, 990 ft. S line, 330 ft. E line, 50-ac. tr., Sur. 416. Drlg. 4,361 ft.

Bryant & Howell No. 1-A Kocurek, 330 ft. N line; 580 ft. E line 53-ac. tr., Sur. 25. (Dir. well to kill wild No. 1). Drlg. 3,012 ft.

R. B. Bryant No. 7 Scoggins, 94-ac. tr., Sur. 315. O. sd. 4,456-62 ft.; set csg. W.O.C.

Conservative Oil Co. No. 1 R. Kleberg, NE¼, sec. 409. M.I.M.

Conservative Oil Co. No. 4-B Morgan, 330 ft. N line, 1,984 ft. W line, lse., Sur. 403. Drlg. 6,472 ft.

Conservative Oil Co. No. 3-B Rand Morgan, 330 ft. N and W lines, lse., Sur. 403. Sd. 5,824-30 ft.; set csg. 5,828 ft.; W.O.C.

Crown Central Pet. Corp. (Wynne Drlg. Co.) No. 4-A Morgan, 80-ac. tr., 160-ac. tr., Surs. 592 and 315. Drlg. 3,431 ft.

Crown Central Pet. Corp. (Wynne Drlg. Co.) No. 3-B Morgan, 330 ft. S and W lines, 80-ac. tr., Surs. 315 and 592. T.D. 4,450 ft.; comp.; 166.4 B.P.D. on 3/16-in. ck.

Tom Graham No. 2 Harmon, 330 ft. S and E lines, 34-ac. tr., Sur. 416. Sd. 5,831-33 ft.; set csg.; W.O.C.

Great States Oil Co. and Violet Oil Corp. No. 7 McGregor-Belk, Sur. 311. D.S.T. 6,318-26 ft.; recd. 1,000 ft. oil, 90 ft. S.W.; sd. 6,208-26 ft.; set csg. 6,326 ft.; cleaning into pits.

Great States Oil Co. and Violet Oil Co. No. 8 McGregor-Belk, Sur. 311. Set 7-in. csg. 4,832 ft.; W.O.C.

H. H. Howell No. 1 Hutchins, 330 ft. N and E lines, 80-ac. tr., Sur. 416. Drlg. 2,907 ft.

Hiawatha Oil Co. No. 6 Hutchins-Stillwell, Blk. 30, Sheppard Farm Lots. Flwg. in pits; T.D. 5,848 ft.

W. B. Hinton No. 4 Cole, 330 ft. N and W lines, 60-ac. tr., Villareal Sur. Sd. 4,-867-76 ft.; T.D. 4,881 ft.; jetting.

W. B. Hinton No. 5 Cole, 330 ft. N line, midway between Nos. 3 and 4, 60-ac. tr., Villareal Sur. Loc.

Houston Oil Co. No. 12 McGregor, 135-ac. tr., Sur. 582. W.O. rig.

Houston Oil Co. No. 14 Morgan, 2,310 ft. S line, 330 ft. W line, 493-ac. tr. Cg. 4,565 ft.

Houston Oil Co. No. 16 Morgan, 492-ac. tr., sec. 7, Rge. 5. Drlg. 2,023 ft.

Magnolia Pet. Co. No. 4 W. W. Walton, 150 ft. S Shell Rd., 330 ft. W line lease, Page Lands Sur. Set 7-in. csg. 4,822 ft.; comp. 166 B.P.D. on ¼-in. ck.; T.D. 4,-849 ft.

Maryland Corp. No. 1 Stillwell-Sagarin 4.4-ac. tr., Sur. 500. R.U.

T. P. Morgan & Associates No. 5 Morgan, NE¼, Sur. 405 (workover). R.U. to dpn.; O.T.D. 6,401 ft.

Oso Drillers, Inc., No. 4 Roark, 660 ft. E line, 1,200 ft. S line, 106-ac. tr., Villareal Gr. Drlg. 4,139 ft.

Pan American Prod. Co. No. 6-A Morgan, 330 ft. N and W line, 99-ac. tr., Sur. 403. Sd. 5,796-5,813 ft.; set csg. 5,796 ft.; W.O.C.

Pan American Prod. Co. No. 5-D Morgan, 330 ft. S and E lines, W½, SW¼, sec. 405. T.D. 5,825 ft.; set csg. 5,816 ft.; comp.; no gauge.

Pan American Prod. Co. No. 4-C Morgan, 90-ac. tr., Sur. 403. Sd. 6,248-81 ft.; comp. 115 B.P.D. on 5/32-in. ck.

Pan American Prod. Co. No. 3-B Sagarin, Sur. 500. Drlg. 5,487 ft.

Pan American Prod. Co. No. 2 Solar Sevier, 140-ac. tr., Sur. 311. Drlg. 3,459 ft.

Phillips Pet. Co. No. 4 Morgan, Sur. 405. Set 7-in. csg. 6,428 ft.; prep. perf. csg. set 6,740 ft.

Renwar Oil Co. and Andrade No. 8 McGregor Belk, 330 ft. N and E lines of lease. McGregor Sur. Drlg. 1,740 ft.

Renwar Oil Co. No. 4 Fred Franka, 20-ac. tr., Sur. 416. Sd. 5,836-45 ft.; comp. 115 B.P.D. on ¼-in. ck.

Renwar Oil Co. and Maryland Corp. No. 5 Morgan, Sur. 315. Sd. 4,417-20 ft.; comp. 97 B.P.D. on ¼-in. ck.; T.D. 4,-435 ft.

Renwar & Maryland No. 6 Morgan, Sur. 315, R.U.

Renwar Oil Co. and Andrade No. 7 McGregor-Belk, Sur. 311. T.D. 6,326 ft.; comp. 80 B.P.D. dist. on 3/32-in. ck.

Republic Nat. Gas Co. No. 1 P. W. Alexander, 32.35-ac. tr., rec. 9, Rge. 5. Drlg. 5,557 ft.

Republic Nat. Gas Co. No. 3 A. Donigan, 240-ac. tr., secs. 6 and 7, Rnge. 5, R.U.

Republic Nat. Gas Co. No. 1 Hutchins, 60-ac. tr., sec. 9, Rge. 5. T.D. 4,389 ft.; comp. 296 B.P.D. on 5/32-in. ck.

Republic Nat. Gas Co. No. 2 Ordner, 219-ac. tr., Sur. 403. Set csg. 5,831 ft.; W.O.C.

Republic Nat. Gas Co. No. 3 Ordner, 100-ac. tr., sec. 403, Schaffer Farm Lots. Drlg. 4,833 ft.

Richardson Pet. Co. No. 14 Cain & Secrist, Lot 23, Russell Farm Lots. Sd. 4,448-50 ft.; set csg.; W.O.C.

Richardson Pet. Co. No. 5 Quiros, 80-ac. tr., Sur. 311. Sd. 5,831-44 ft.; set 7-in. csg. 5,831 ft.; W.O.C.

Southern Minerals Corp. No. 7 Isensee, Sur. 404. Set csg. 911 ft.; sd. 4,405-25 ft.; comp.; no gauge.

Southern Minerals Corp. No. 9 Smith, Lot 5, Sheppard Farm Tracts. Drlg. 3,661 ft.

Stamex O. & G. Co. No. 1 Cox & Cryder, 330 ft. N line, 990 ft. E line tr., Sur. 166 and 316. Drlg. 4,571 ft.

T. & T. Oil Co. No. 2 Cain & Secrist, Blk. 23, J. C. Russell Farm Lots. Drlg. 4,443 ft.

Taylor Pet. Co. No. 1 Baldwin, 200-ac. tr., Blk. 21, Russell Farm Lots. Cg. 4,-182 ft.

Texon Drlg. Co. No. 1 Carter, 330 ft. N and E lines lse., Sur. 316. Set 7-in. csg. 4,438 ft.; W.O.C.

Texon Drlg. Co. No. 6 Carter, 219-ac. tr., Sur. 316. Sd. 4,445-50 ft.; set 7-in. csg.; W.O.C.

Texon Drlg. Co. No. 1 Buckholt, 330 ft. S and E lines, 19.14-ac. tr., Sur. 402 and 316. T.D. 4,459 ft.; perf. at 4,000 ft.; tstd. gas.

W.A.R. Oil Co. No. 3 Hoelscher, Blk. 22, Russell Farm Lots. Sd. 4,455-59 ft.; swabbing in.

Stratton—Nueces County

Camp Prod. Co. No. 1 Wordner, 330 ft. E line, 1,280 ft. N line, sec. 12, Stratton Subd. R.U. and S.D.

Plymouth—San Patricio County

Humble O. & R. Co. No. 5 Bevely, Blk. 1, sec. 25, M.I.M.

Magnolia Pet. Co. No. 11 Corpus Christi Bank, sec. 24, Fourth Addn., Taft Lds Drk.

Plymouth Oil Co. No. 65-C Welder, sec. 71 Drlg. 6,413 ft.

Plymouth Oil Co. No. 66-C Welder, sec. 71. T.D. 5,619 ft.; sd. 5,599-5,619 ft.; set csg.; W.O.C.

Plymouth Oil Co. No. 67-C Welder, sec. 48. M.I.M.

Taft Field—San Patricio County

Atlantic Ref. Co. No. 3 Pullin, 330 ft. N line, 330 ft. W line, 40-ac. tr., Lot 4 sec. 1, Second Addn, R.U.

Cage Prod. Co. No. 5 Mayo, 330 ft. S and W lines lse., J. Fessenden Sur. Cg. 4,-847 ft.

Cage Prod. Co. No. 7 Mayo, 9,560 ft. W line, 990 ft. S line, 60-ac. tr., Ottman Sur. Loc.

Conroe Drlg. Co. No. 6 Pullin, Lot 4, sec. 1. Spudded in.

Humble O. & R. Co. No. 2 Flynn, Lot 1, sec. 1, Second Addn. T.D. oil sd. 3,992 ft.; set csg.; W.O.C.

Humble O. & R. Co. No. 2 Godwin, Lot 1, sec. 23, Third Addn. T.D. 4,010 ft.; comp. 102.48 B.P.D. on 8/64-in. ck.

Humble O. & R. Co. No. 13 Mayo, 799 ft. S line, 330 ft. E line, 320-ac. tr., Ottman Sur. Set csg. 4,930 ft.; W.O.C.

Los Olmos—Starr County

Ted Stone No. 1 Kelsey-Bass, Porc. 87, J of Camargo. Sd. 400-08 ft.; tstg.

Cole—Webb County

O. W. Killam No. 47 Bruni, Blk. 5, Sur. 3. D.&A. 1,394 ft.

O'Hern—Webb County

Hamil & Smith No. 17 Benavides, Blk. 379 Hale Subd. Comp. 20 B.P.H. on ½-in. ck.; T.D. 2,030 ft.

Hamil & Smith No. 18 Benavides, Blk. 435, Hale Subd. Loc.

Hamil & Smith No. 23 Benavides, O'Hern Subd. Tstg. sd. 2,924-36 ft.

Hamil & Smith No. 37 Benavides, O'Hern Subd. Drlg. 2,521 ft.

Hamil & Smith No. 40 Benavides, Hale Subd. R.U.

O. W. Killam No. 2 Bruni, Sur. 585. Drlg. 127 ft.

Magnolia Pet. Co. No. 18 Seacord-Benavides, Blk. 8, O'Hern & Seacord Subd. Drlg. 2,661 ft.

Magnolia Pet. Co. No. 19 Seacord-Benavides, Blk. 8. Comp. 6 B.P.H.; T.D. 2,-828 ft.

H. M. Reed No. 4 Benavides, Blk. 299 Hale Subd. Swbg. 2,916 ft.

Starr Dev. Co. No. 1 Benavides, 330 ft. N and W lines, Sur. 173. M.I.M.

Sun Oil Co. No. 2-A Benavides, Blk. 439, Hale Subd. M.I.M.

Sun Oil Co. No. 1 Brennan-Benavides, Blk. 378, Hale Subd. T.D. 2,928 ft.; comp. 17 B.P.H.

Texas Co. No. 1-A Benavides, C Lot 310, Hale Subd. Comp. 170 B.P.D. on ¼-in. ck.; T.D. 2,916 ft.

Texas Co. No. 2-A Benavides, Blk. 371, Hale Subd. Drlg. 1,172 ft.

Charco Redondo—Zapata County

W. C. Bob No. 2 Martinez, S¼, Blk. 22, Qandudo Grant. M.I.M.

Cuellar—Zapata County

Howard & Duggan No. 1 Cuellar Bros. Sur. 248. T.D. 1,840 ft.; D.&A.

Escobas—Zapata County

Daubert & Lipscomb No. 2 Pedro de los Santos, Share 6, Fansler Part. Comp. 30 B.P.D.; T.D. 1,304 ft.

Daubert & Lipscomb No. 3 Santos, Share 6, Fansler Part. M.I.M.

Sam Evans No. 1 Garza, Blk. 19, Zorro ranch. Sd. 1,316-23 ft.; bailing.

H. & R. Oil Co. No. 9 Garza, Blk. 11, Douglas Subd. T.D. 1,260 ft.; comp. 60 B.P.D.

B. W. Roscoe No. 6 Bustamente, 197.5-ac. tr., Sh. 33, Loc.

B. W. Roscoe No. 6 Garza, Sh. 33, Fansler Part. T.D. 1,208 ft.; comp. 75 B.P.D.

B. W. Roscoe No. 7 Garza, Share 33, Fansler Part. Drlg. 736 ft.

Texas Co. No. 95 Jennings, Cerrito Blanco Gr. Drlg. sdy. sh. 1,297 ft.

Zapata Corp. No. 6 Garza, Blk. 20, Douglas Subd. Testing 1,219 ft.

Zapata Corp. No. 9 Garza, Blk. 20, Douglas Subd. T.D. 1,187 ft.; comp. 85 B.P.D.

Haynes—Zapata County

J. D. Long No. 1 Phelps, Villa Gr. R.U.

Magnolia Pet. Co. No. 4 Haynes, Blk. 7, Haynes Subd. T.D. 1,110 ft.; comp. 60 B.P.D.

Magnolia Pet. Co. No. 5 Haynes, Blk. 7, Haynes Subd. T.D. 1,482 ft.; S.D.

Magnolia Pet. Co. No. 8 Haynes, Blk. 7. T.D. 1,138 ft.; D.&A.

Magnolia Pet. Co. No. 9 Haynes, Blk. 7, T.D. 1,159 ft.; bailing.

Magnolia Pet. Co. No. 10 Haynes, Blk. 7. T.D. 1,085 ft.; comp. 50 B.P.D.

Magnolia Pet. Co. No. 11 Haynes, Blk. 7. T.D. 1,088 ft.; comp. 60 B.P.D.

Magnolia Pet. Co. No. 12 Haynes, Blk. 7. Drlg. 477 ft.

United Prod. Co. No. 10 Haynes, Blk. 13, Gunby Subd. T.D. 1,049 ft.; comp. 100 B.P.D.

United Prod. Co. No. 14 Haynes, Blk. 13, Haynes Subd. T.D. 999 ft.; comp. 40 B.P.D.

United Prod. Co. No. 15 Haynes, Blk. 13, Haynes Subd. T.D. 1,019 ft.; comp. 40 B.P.D.

Valley Osage Oil Co. No. 4 Haynes, Blk. 14, Haynes Subd. Drlg. 817 ft.

E. C. TEXAS WILDCATS

Anderson County

American Liberty Oil Co. No. 1 G. E. Gauge, Blackfoot area, B. Gilbert Sur. Drk.

Tide Water Oil Co. et al No. 7 Manning, deep test, Long Lake field. Loc.

Angelina County

Hicks et al No. 1 Morris, J. Morris Sur., 3 mi. E of Diboll. Drlg. 2,062 ft.

W. A. Stone et al No. 1 Southern Pine Lbr. Co., B. J. Thompson Sur., 8 mi. SE Lufkin. S.D.

Summeral-Harris et al No. 1 M. L. Condrea, D. D. Maroney Sur., ¾ mi. W of Huntington. Drlg. 836 ft.

Cherokee County

A. F. Richardson No. 1 F. P. O'Brien, G. S. Clapp Sur., 3 mi. NW of Rusk; 5,000-ft. test. Loc.

Dallas County

Mauldin Oil Co. No. 1 W. E. Howell, S. Layton Sur., 8 mi. E of Grapevine, 6 mi. W of Longmire. R.U.

Falls County

A. H. Bell et al No. 1 C. L. Trice, F. Mayham Sur., 1 mi. E of Lott. Drlg. 900 ft.

R. M. Hefflin, No. 1 T. E. Battie, Mari Sur., 3 mi. SW of Marlin. S.D. 2,082 ft.

Thirteen Oil Co. No. 1 H. R. Roberts, N. Slatter Sur., 6 mi. SE of Lott. Pecan Gap 1,480 ft.; drlg. 2,163 ft.; top Edwards 2,131 ft.

Fannin County

Joiner & Owens No. 1 Goss-Morgan, J. Stephens Sur., 16 mi. N of Honey Grove. Drlg. 2,560 ft.

Styles & Smith No. 1 R. Stewman, J. W. Clark Sur., 2 mi. SE of Trenton. S.D. 588 ft.; elev. 724 ft.

Freestone County

Everett Drlg. Co. No. 1 O. W. Killian, E. J. Robins Sur., 6½ mi. SE of Fairfield. Top Pecan 3,503-3,719 ft.; drlg. 4,300 ft.

Fancey et al No. 1 Scott, Church Lot, H. Awalt Sur., W of Stewartsville. S.D. 3,860 ft.

Hunt County

Penn Oil Corp. et al No. 1 A. B. Manning, 5 mi. NE of Lone Oak, S. Owens Sur. Drk.

Superior Oil Co. No. 1 P. D. Paul, Mary Latham Sur., 4½ mi. NE of Quinlan. Drk. and R.U.

Texola Land Corp. No. 1 J. M. Goin, 1,-500 ft. S and 400 ft. E of Jas. Merrick Sur., 2 mi. SW of Wolfe City. S.D. 40 ft.

Kaufman County

Scott & Woodside No. 1 W. and T. Nash, 1,477 ft. S and 150 ft. W, in J. Cortez Sur., 1 mi. E of Scurry. Loc.

Lamar County

Lowery-Cutler No. 1 E. C. Porter, Thos. King Sur., Top Georgetown 354 ft.; drlg. 1,600 ft.

Limestone County

A. W. Phillips et al No. 1 E. M. Speight, M. Herrin Sur., 6½ mi. SE of Mexia. S.D. 3,512 ft.

Rains County

Humble and Tide Water Oil Co. No. 1 Easter, R. Hotchiss Sur., 5 mi. NW Alba. Cg. 7,546 ft.

Red River County

Carpenter Oil Co. No. 1 R. E. Anderson, S. W. Sims Sur., 3 mi. N of Clarksville. S.D. 2,018 ft.

Roy I. Carter Drlg. Co. No. 1 J. A. Tutt, C 40-ac. tr. in D. Hart Sur., 2 mi. S of Avery. S.D. 80 ft.

M. Petroff et al No. 1 R. G. Morris, J. Guest Sur., 2 mi. W of Detroit. S.D. 20 ft.

Robertson County

J. E. Mills No. 1 T. Congelosi, C of 75-ac. tr. in G. A. Nixon Sur., 3½ mi. SW of Hearne. T.D. 2,250 ft.; S.D.

Ben C. Lamb No. 1 Leath, L. J. Dooley Sur., 2½ mi. E of Pirtle. S.D. 4,740 ft.

Wood County

G. W. Nix et al No. 1 E. A. Russell, J. Delap Sur., SW cor. of county. S.D. 600 ft.

EAST TEXAS
(Border Counties)

Cass County

W. D. Ambrose No. 1 W. D. Chew, Robt. Trammel Sur., Chew. tr. Drlg. 510 ft.

W. D. Ambrose No. 2 W. D. Chew, Robt. Trammel Sur., Chew tr. Drlg. 722 ft.

American Liberty No. 5-A Baugus, J. H. Rives Sur., Lot 10. Comp.; flw. 511 B.P.D.; T.D. 6,017 ft.

American Lib. No. 6-A Baugus, J. H. Rives Sur., Lot 9. Drlg. 3,059 ft.

American Liberty No. 1 White & Walker, 4½-ac. tr., J. H. Rives Sur. Comp.; flw. 12 B.P.H.; T.D. 6,032 ft.

American Liberty No. 4 J. Wiley, C E and W. line, 56-ac. tr., J. Davenport Sur. Loc.

American Liberty No. 5 J. Wiley, SW cor. lse., J. Davenport Sur. Drlg. 5,375 ft.

Gulf Prod. Co. No. 3 Dawson, J. H. Rives Sur. Drlg. 1,683 ft.

P. L. Hoffman et al No. 1 Davis, James Smith Sur., SE cor. 58-ac. tr. Comp.; flw. 25 B.P.H.; T.D. 6,016 ft.

H. L. Hunt No. 1 I.N.&C.L. Shelton, SE cor. 202-ac. tr., J. Davenport Sur. T.D. 6,050 ft.; W.O.S.R.

W. F. Lacey No. 1 J. Lewis, NW cor. B. E. Echols 17.4-ac. lse., H. Holbert Sur. 7-in. cmtd. 6,078 ft.; T.D. 6,089 ft.; W.O.C.S.

Magnolia Pet. Co. No. 1 Allday Est., P. Evans Sur., SE cor. 87-ac. tr. Drlg. 5,111 ft.

Magnolia Pet. Co. No. 2 Allday Est., P. Evans Sur. Drlg. 2,441 ft.

Magnolia Pet. Co. No. 9 J. E. George, John Collom Sur. Comp.; flw. 270 bbls. in 17 hrs.; T.D. 6,025 ft.

Magnolia Pet. Co. No. 5 L. Haywood, P. Evans Sur., 625 ft. NE of No. 4. Drlg. 4,164 ft.

Magnolia Pet. Co. No. 6 L. Haywood, P. Evans Sur., 508 ft. NW of No. 1. Drlg. 4,742 ft.

Magnolia Pet. Co. No. 1 Lewis & Wilks, A. Archer Sur., SE cor. 20-ac. tr. Drlg. 5,111 ft.

Magnolia Pet. Co. No. 1 J. B. McLeod, Cass Co. Sch. Ld. Sur., NW cor. sur. Loc.

Magnolia No. 5 Meda Green, James Davenport Sur., 245-ac. lse. Comp.; flw. 300 B.P.D.; T.D. 6,075 ft.

Magnolia No. 2 Noel Est., Wm. B. Hughes Sur., NE cor. Noel lse. Comp.; flw. 192 B.P.D.; T.D. 6,080 ft.

Magnolia Pet. Co. No. 4 Noel Est., W. B. Hughes Sur. Drlg. 1,006 ft.

Magnolia Pet. Co. No. 5 Rives, SE cor. John Collum Sur. P.B. 5,968 ft.; arg. test.

Magnolia No. 11 Rives, John Collum Sur., 804 ft. SE of No. 6. Comp.; flw. 324 B.P.D.; T.D. 6,063 ft.

Magnolia Pet. Co. No. 1 H. F. Walker,. Wilson Robinson Sur., SE cor. 102-ac. lse. Drlg. 5,724 ft.

Magnolia Pet. Co. No. 2 H. F. Walker, Wilson Robinson Sur., SE SE cor. 102-ac. lse. Drlg. 6,032 ft.

Magnolia Pet. Co. No. 3 H. F. Walker, Wilson Robinson Sur., NW cor. 102-ac. lse. Drlg. 5,241 ft.

Magnolia Pet. Co. No. 4 H. F. Walker, Wilson Robinson Sur., NE cor. 102 ac. lse. Drlg. 4,925 ft.

Magnolia Pet. Co. No. 5 H. F. Walker, Wilson Robinson Sur., SW cor. 102-ac. lse. Drlg. 4,906 ft.

Magnolia No. 1 Thornton Hrs., Wilson Robinson Sur., NE cor. 30-ac. tr. Comp. flw. 689 B.P.B.; T.D. 6,060 ft.

R. W. Norton No. 4 J. T. Moore, Wm. R. Myers Sur. Drlg. 5,810 ft.

Ohio Oil Co. No. 5 R. P. Willis, S.F.I.W. Sur. No. 1,263. Drlg. 5,090 ft.

Ohio Oil Co. No. 9 R. P. Willis, S.F.I.W. Sur. No. 1,263, SW of No. 3. 7-in. cmtd. 5,933 ft.; T.D. 5,950 ft.; W.O.C.S.

Ohio Oil Co. No. 12 R. P. Willis, SE cor. 320-ac. tr., S.F.I.W. Sur. No. 1,263. 7-in. cmtd. 5,985 ft.; tstg.; T.D. 5,924 ft.

Ohio Oil Co. No. 13 R. P. Willis, S.F.I.W. Sur. No. 1,263. Loc.

Ohio Oil Co. No. 14 R. P. Willis, S.F.I.W. Sur. No. 1,263. Loc.

Ohio Oil Co. No. 18 R. P. Willis, S.F.I.W. Sur. No. 1,263, 1,750 ft. W of No. 12. Drlg. 3,110 ft.

Phillips Pet. Co. No. 1 Chew, SE cor. 207-ac. lse., Robt. Trammel Sur. Drlg. 5,-903 ft.

Phillips Pet Co. No. 2 Chew, 1,460 ft. N, 326 ft. W, SE cor. W. D. Chew 207-ac. lse., Robt. Trammel Sur. 7-in. cmtd. 6,-135 ft.; T.D. 6,162 ft.; W.O.C.S.

Phillips Pet. Co. No. 3 Chew, 2,324 ft. N, 326 ft. W, SE cor. W. D. Chew 207-ac. lse., Robt. Trammel Sur. Comp.; flw. 296 B.P.D.; T.D. 5,996 ft.

Phillips Pet. Co. No. 2 Farrier, on 200-ac. tr., Wm. Myers Sur. Comp.; flw. 18 B. P.H.; T.D. 6,072 ft.

Phillips Pet. Co. No. 5 Farrier, Wm. R. Myers Sur. Drlg. 1,595 ft.

Phillips Pet. Co. No. 6 Farrier, Wm. R. Myers Sur. Drlg. 2,697 ft.

Phillips Pet. Co. No. 7 Farrier, Wm. R. Myers Sur. R.U.

Phillips Pet. No. 8 Farrier, Wm. R. Myers Sur. Loc.

Phillips No. 3 Farrier, Wm. R. Myers Sur., Sur., 220-ac. lse. Drlg. 4,620 ft.

Phillips No. 4 Farrier, Wm. R. Myers Sur., 933 ft. W of No. 2. Cg. 5,974 ft.

Phillips Pet. Co. No. 1 Skinner, Hutchinson tr., S.F.I.W. Sur. No. 1,025. Drlg. 4,483 ft.

Phillips Pet. Co. No. 2 Skinner, Hutchinson tr., S.F.I.W. Sur. No. 1,025. Comp.; 598 B.P.D.; T.D. 6,125 ft.

Spray Oil Co. No. 2 Scott Adams, 25-ac. tr., Robt. Trammell Sur. Drlg. 5,670 ft.

Texas Co. No. 2 W. M. Hall, Alex Archer Sur., 664 ft. W of E line. Comp.; flw. 579 B.P.D.; T.D. 6,090 ft.

Texas Co. No. 3 W. M. Hall, Alex Archer Sur. Drlg. 3,345 ft.

Texas Co. No. 4 W. M. Hall, Alex Archer Sur. Drlg. 5,278 ft.

Texas Co. No. 1 D. Lewis, A. Archer Sur. Drlg. 2,065 ft.

Texas Co. No. 2 J. B. McLeod, W. A. Elliott Sur., 440 ft. E of W and 495 ft. S of N line of 160-ac. tr. Comp.; flw. 229 B.P.D.; T.D. 6,088 ft.

Texas Co. No. 3 J. B. McLeod, W. A. Elliott Sur. Drlg. 4,965 ft.

Texas Co. No. 1 N. A. Rambo, C. C. Sch. Ld. Sur., SW cor. 160-ac. lse. Comp.; flw. 304 B.P.D.; T.D. 6,079 ft.

Texas Co. No. 6 N. A. Rambo, Cass County Sch. Ld. Sur. Drk.

Texas Co. No. 8 N. A. Rambo, Cass County Sch. Ld. Sur. R.U.

Tide Water No. 1 W. D. Chew, Robt. Trammel Sur., 150 ft. N of S line, midway between E and W lines of 20-ac. lease. Derrick.

Tide Water No. 3 C. C. Chew, NW cor. 55-ac. tr., Robt. Trammel Sur. Comp.; flw. 457 B.P.D.; T.D. 6,010 ft.

United Prod. Co. No. 1 G. W. Bibby unit, A. Archer Sur. Loc.

United Prod. Co. No. 2 G. W. Bibby Unit, Alex Archer Sur., Hartzo 20-ac. lse. Comp.; 22 B.P.H.; T.D. 6,050 ft.

United Prod. Co. No. 3 G. W. Bibby Unit, Alex Archer Sur., 13-ac. Hartzo lse. Comp.; flw. 527 B.P.D.; T.D. 6,035 ft.

United Prod. Co. No. 4 G. W. Bibby Unit, Alex Archer Sur., 24-ac. tr. Comp.; flw. 347 B.P.D.; T.D. 6,050 ft.

United Prod. Co. No. 2 Bivens Unit, Jas. Davenport Sur. Drlg. 5,940 ft.

United Prod. Co. No. 3 J. A. Bewley, H. Holbert Sur. Loc.

United Prod. No. 4 J. A. Bewley, H. Holbert Sur. Drlg. 580 ft.

United Prod. No. 5 J. A. Bewley, H. Holbert Sur. Drk.

United Prod. No. 1-A J. H. Bewley, H. Holbert Sur. R.U.

United Prod. No. 2-A J. H. Bewley, H. Holbert Sur. Loc.

United Prod. Co. No. 9 J. R. Jones Unit, Ben J. Murray Sur. Comp.; flw. 45 B. P.H.; T.D. 6,013 ft.

United Prod. Co. No. 10 J. R. Jones Unit, Ben J. Murray Sur. Comp.; flw. 27 B.P. H.; T.D. 6,030 ft.

United Prod. Co. No. 7 Rambo Unit, Jas. Davenport Sur., H. A. Thomas 83-ac. tr. Comp.; flw. 325 B.P.D.; T.D. 6,-010 ft.

United Prod. Co. No. 8 Rambo Unit, Jas. Davenport Sur., H. A. Thomas 83-ac. tr. Comp.; flw. 21 B.P.H.; T.D. 6,009 ft.

United Prod. No. 9 Rambo Unit, J. Davenport Sur., 545 ft. S, 400 ft. E of most northerly NW cor. Rambo Unit. Drlg. 5,051 ft.

United Prod. Co. No. 10 Rambo, J. Davenport Sur. Drlg. 3,200 ft.

United Prod. Co. No. 9 J. T. Stewart Unit, John Collom Sur., 81-ac. tr. 7-in. cmtd. 6,018 ft.; T.D. 6,040 ft.

United Prod. Co. No. 10 J. T. Stewart Unit, John Collom Sur., 48-ac. tr. Cg. 6,045 ft.

United Prod. Co. No. 3 Tyson Unit, J. H. H. Rives Sur. T.D. 6,035 ft.; tstg.

United Prod. Co. No. 4-A Tyson Unit, J. H. Rives Sur. Comp.; flw. 15 B.P.H.; T.D. 6,035 ft.

United Prod. Co. No. 5-A Tyson, J. H. Rives Sur. Drlg. 800 ft.

United Prod. Co. No. 6-A Tyson, J. H. Rives Sur. Loc.

Harrison County

Geyer Oil Co. No. 1 Alex Moore, 5 mi. SW of Waskom, C. W. Fields Sur. T.D. 1-990 ft.; S.D.

H. H. Roberts et al No. 1 Z. Douglas, B Fields Sur. T.D. 2,280 ft.; S.D.

Marion County

Arkansas-La. No. 1 W. S. Ford, Charles Grayson Sur., NE cor. Ford 204-ac. tr. Drlg. 3,310 ft.

Tom Bell et al No. 1 David Lane, SW C Log 2, Jones Sur. T.D. 72 ft.; S.D.

F. R. Freet et al No. 1 Barnham, Robt. Potts Sur. Drk.

Sam Lanier No. 1 Lucey Rives, SE cor. M. G. Wall Sur. T.D. 960 ft.; W.O.S.R.

Morefield & Prince No. 1 Benefield, NE cor. Robt. Potter Sur., 4 mi. W of Oil City, La. T.D. 180 ft.; S.D.

Holcomb & Thomason No. 1 Lizzie Henderson, 330 ft. S and E, cor. Blk. 18, of Lizzie Henderson Subd., or 2,800 ft. S, 3,450 ft. E of NW cor. of R. Bennington Sur. T.D. 5,990 ft.; D.S.T. 3,000,000

ft. gas in Gloyd sd.; T.D. 6,075 ft.; prep. run csg.

Panola County

Glassell & Glassell No. 1 Williamson, Mary Potts Sur. T.D. 5,685 ft.; comp.; 5,000,000 ft. gas on ¼-in. tbg. ck.

Lawrel Pet. Co. No. 1 Bucknell, B. Anderson Sur. Comp.; T.D. 6,004 ft.; D.&A.

Logansport P. L. Corp. No. 1 Rushing, M. Smith Sur. T.D. 2,774 ft.; S.D.

Magnolia Pet. Co. No. 1 E. A. Hull, T. Applewhite Sur. Comp.; T.D. 5,960 ft.; 2,300,000 ft. gas.

Matex Oil Co. No. 1 Thomas M. Alstone 3 mi. E of Elysian field. T.D. 5,036 ft.; prep. to test.

Shelby County

Mulroy-Curtain et al No. 1 Hayden, D. G. Yardt Sur. T.D. 3,182 ft. (cor.); S.D.

Potter & Rubeling O. H. Polly No. 1, Wm. Wisner Sur. T.D. 4,070 ft.; S.D.

Wm. Redditt No. 1 Pickering Lbr. Co., SE cor. Stephens English Sur. Spudding.

Red Wing Oil Co. No. 1 C. H. Herton, 54-ac. tr. in J. Dowlin Sur. S.D. 1,889 ft.

H. A. Stebbinger No. 1 Pickering Lbr. Co., on 160-ac. tr. in A. Hanson Sur. R.U.

NORTH TEXAS WILDCATS

Archer County

Guy Scholl No. 1 Cowan, Blk. 6, J.C.S.L. Sur. A-240. Drlg. 795 ft.

Clay County

G. T. Morris No. 1 Boddy, T. Cook Sur. Drlg. 750 ft.

Collin County

Sorrell et al No. 1 D. R. Clark, J. Rowland Sur. Spudded and S.D.

Cooke County

Wm. D. Compton No. 1 P. Tucker, J. Barnett Sur. A-42. Drlg. 525 ft.

B. H. Hilburn No. 1 W. A. Harris, J. Harris Sur. A-502. Fishing 1,440 ft.

Kingery et al No. 1 Davidson, C. Sagers Sur. A-938. Drlg. 1,510 ft.

Montour Prod. Co. No. 1 Cornelius, J. T. Bloomfield Sur. A-35. Spdg.

C. Newburn No. 1 J. J. Clark, W. C. Campbell Sur. A-238. 6⅝-in. 2,235 ft.; S.S.O. 2,236-50 ft.; tested S.W.; S.D.O.

Peterson et al No. 1 J. M. Floyd, Chas. De Morse Sur. A-305. Spdg.

Ruble & Lowery No. 1 Dozier, Lot 12, F.C. S.L. Sur. R.U.R.

Seitz et al No. 1 State Bank, Charles Wheelock Sur. A-1,131. Drlg. 2,482 ft.

Denton County

Carlysle & Wilson No. 1 J. P. Knox, R. Howard Sur. A-542. Gas sd. 1,950-55 ft.; est. 10,000,000 ft.

J. C. Foster No. 1 Jeffcoat, J. West Sur. Drlg. 1,130 ft.

C. C. Minnick No. 1 C. N. Price, J. Doughtitt Sur. A-1,322. Fsg. 270 ft.

Oil Finance No. 1 J. S. Gambill. Drlg. 1,562 ft.

J. Stogner No. 1 J. Maxwell, Jno. Morton Sur. A-792. Spudded and S.D.

Grayson County

F. Gailbreath et al No. 1 Singletary, Chas. Quillian Sur. A-989. S.S.O. 3,860-65 ft.; testing.

Red Wing Oil Co. No. 1 Mulder, J. Barefoot Sur. Spudding.

Olson et al No. 1 D. R. Ultger, P. P. Cady Sur. A-301. Drlg. 2,605 ft.

Jack County

Bryson O. & G. Co. No. 1 O. Loving, T.& N.O. Sur. A-852. Drlg. 4,300 ft.

Danciger O. & R. Co. No. 1 Kinder, B.S.&F. Sur. A-83. Drlg. 1,100 ft.

Hamilton Pet. Co. No. 1 J. S. Rhodes, Wm. Orr Sur. A-849. Drlg. 400 ft.

Hanlon-Buchanan, Inc., No. 1 Calvin, E. B. Calvin Sur. P.O.P. est 150 bbls.; 2,869-89 ft. C.O. and testing.

Mrs. D. P. Jack No. 1 Hardy, T.E.&L. Sur. No. 2,555. Drlg.

Sam Shabay No. 1 L. W. Fields, sec. 1, S.P.R.R. Sur. Loc.

Montague County

Gutowsky & Clay No. 1 Lemon, C. K. Ham Sur. Drlg. 2,495 ft.

W. E. Halbert No. 1 Petty, S. A. Southerland Sur. A-992. Drlg. 2,501 ft.

Edgar T. Hart No. 1 W. L. Davis, sec. 12, Jack Co. Sch. Ld. R.U.R.

D. L. Monroe No. 1 Sappington, sec. 64, E.T.R.R. Sur. A-1,443. Spdg.

Sinclair Prairie No. 1 Hodges, Blk. 55, K. C.S.L. Sur. S.S.O. 1,750-65 ft.; testing.

Throckmorton County

Canyon O. & G. Co. No. 2 Wright, D.B.B. &C. Sur. Loc.

R. J. Williams No. 1 W. B. Parrott, T.E. &L. Sur., sec. 961. S.D.O. 2,520 ft.

Wichita County

T. B. Medders No. 1 Allen, H.T.&B. Sur. A-129. Drlg. 1,910 ft.

W. B. Omohundro No. 1 Cunningham, Blk. 239, W.C.S. Sur. Drlg. 2,375 ft.

Palmer et al No. 1 McCarty, S. O. Fowler Sur. No. A-78. Fsg. 1,820 ft.

Wilbarger County

Rathke Oil Co. No. 1 Waggoner, H.&T.C. Sur., Blk. 33. Drlg. 1,982 ft.

Wise County

Texas-Canadian Dev. Co. No. 1 Levette, sec. 1, S.C.S.L. Sur. Drlg. 3,260 ft.

Young County

R. C. Albright No. 1 W. E. Steele, I.R.R. Sur. A-156. Drlg.

Alexander & Long No. 1 Goldston, S.P.R.R. Sur. A-263. H.F.W. 2,640 ft.

Helmerich & Payne No. 1 J. H. Rubenkoenig, J. Poitevent Sur. 9-227. Drlg. 4,000 ft.

Pitzer & West No. 1 Gathright, T.E.&L. Sur. 617. Drlg. 3,900 ft.

A. T. Strong No. 1 Davidson, R. C. Eddleman Sur. A-1,420. Drlg. 4,005 ft.

R. H. Vise No. 1 Dollins, T.E.&L. Sur. 615. Fsg. 2,633 ft.

C. V. Welch No. 1 Street, M. E. Criswell Sur. A-1,772. Fsg. 1,040 ft.

L. W. Wickes No. 1 McCluskey, Green Sur. Drlg. 3,175 ft.

Yorktex Pet. Co. No. 1 F. G. Burnett, G. W. Hills Sur. A-151. P.B. 4,100 ft.

WEST TEXAS WILDCATS

Andrews County

American Liberty Oil Co. No. 1 Mayhew, sec. 23, Blk. A-51, P.S.L. Sur. Drlg. 954 ft.

G. F. Getty, Inc., No. 1 R. H. Lindley, sec. 8, Blk. A-46. Drlg. plug 3,130 ft.

Grisham Hunter Corp. No. 1 Ratliff & Bedford. Drlg. 4,761 ft.

Wm. Hannigan No. 1 Logsden, sec. 5, Blk. A-32. Made D.S.T. at 4,654 ft.

R. H. Henderson No. 1 J. E. Parker, sec. 25, P.S.L. Sur. A-43. T.D. 4,555 ft.; R.U.S.T.

Sinclair Prairie Oil Co. No. 1 E. Cowden, sec. 12, Blk. 44, Twp. 2n, T.&P. Sur. T.D. 4,300 ft.; swabbing.

Brewster County

F. C. Dodson No. 1 Texas American Synd., sec. 66, Blk. 10, G.H.&S.A. Sur. T.D. 3,690 ft.; reaming at 3,510 ft.

Crane County

Clark et al No. 1 Jordan, sec. 12, Blk. B-22, P.S.L. Sur. S.D. 2,755 ft.

Gulf Oil Corp. No. 2 W. N. Waddell, sec. 18, Blk. B-21. T.D. 6,709 ft.; P.B. 6,186 ft.; acidized; swabbing.

Gulf Oil Corp. No. 2 McKnight, sec. 9, Blk. B-21. T.D. 3,812 ft.; U.R. csg.

Gulf Oil Corp. No. 2 Snodgrass, sec. 1, Blk. B-25. T.D. 3,550 ft.; P.B. 3,540 ft.; testing.

Moore Bros. No. 1 Barnsley, sec. 43, Blk. 32, P.S.L. Sur. S.D. 6,509 ft.

Crockett County

T. P. Coal & Oil Co. No. 1 Bair, sec. 51, Blk. 1, I.&G.N. Sur. Drlg. 130 ft.

Culbertson County

Grisham & Hunter No. 1 fee, SE cor. sec. 22, Blk. 54, P.S.L. Sur. M.I.M.

Dawson County

Roy Albaugh et al No. 1 J. Robinson. T.D. 5,038 ft.; pumping.

Ector County

Empire O. & R. Co. No. 1-D Cummins, sec. 23, Blk. 45, Twp. 1n, T.&P. Sur. T.D. 4,255 ft.; to acidize.

Sinclair Prairie Oil Co. No. 2-A Johnson, sec. 48, Blk. 43, Twp. 1s, T.&P. Sur. Drlg. 1,766 ft.

Stanolind O. & G. Co. No. 2-B Cowden. T.D. 4,451 ft.; C.O.

Edwards County

D. Auld No. 1 Rigsby, sec. 16, G.C.&S.F. Sur., 6 mi. N and 2 mi. W of Plateau No. 1 Hatch. Loc.

Plateau Oil Co. No. 1 Hatch. S.D. 4,753 ft.

Fisher County

L. A. Daniels et al No. 1 J. J. Nickless. Drlg. 2,012 ft.

L. A. Long et al No. 1 J. L. Mayberry, sec. 56, Blk. 1, H.&T.B. Sur. T.D. 3,321 ft.; P.B. 3,042 ft.; to test.

Southern Oil Co. No. 1 Robinson, sec. 172, Blk. 2, H.&T.C. Sur., 2½ mi. NE of Raton. To spud.

Gaines County

Amerada Pet. Corp. No. 1-A Averitt, sec. 228, Blk. G, W.T.R.R. Sur. T.D. 5,064 ft.; flowing through 1-in. choke.

Amerada Pet. Corp. No. 1 Robbins, 660 ft. from N and W, sec. 9, Sur. A-22. S.D. 4,660 ft.

Stanolind O. & G. Co. No. 1 Morrow. T.D. 4,720 ft.; testing.

Glasscock County

Fleetborn Oil Co. No. 1 Black Arrow, sec. 3, Blk. 34, Twp. 3s, T.&P. Sur. Drlg. 1,012 ft.

Fleetborn Oil Co. No. 1 Coulson, sec. 19 Blk. 33, Twp. 3s, T.&P. Sur. T.D. 2,720 ft. U.R. csg.

Shell Pet. Corp. No. 1 McDowell, sec. 41, Blk. 34, Twp. 2s, T.&R. Sur. T.D. 463 ft.; set csg.

Hockley County

Texas Co. No. 1 B. Slaughter, Labour 83, League 38, Zavala Co. Sch. Lds. T.D. 3,770 ft.

Hudspeth County

Haymon Krupp Oil & Ld Co. No. 1 Thaxton, SE¼ sec. 34, Blk. 74, Twp. 6, T.D. 2,635 ft.; U.R. csg.

Jeff Davis County

Joiner & Wilcox No. 1 Jones & Coffield sec. 121, Blk. 4, H.&T.C. Sur. S.D. 550 ft.

Jones County

H. D. Egger et al No. 1 O. Roberts, sec. 26, Orphan Asylum Lands. Drlg. 1,526 ft.

Oyster & Griffith No. 1 Bumpass, A. Jones Sur., 3 mi. SW of Truby. Drlg. 2,223 ft.

J. L. Reeves No. 1 Kelly, C. Martinez Sur., 1½ mi. N of Hawley. S.D. 2,050 ft.

Texas Inland Oil Co. No. 1 J. K. Pittard sec. 27, Orphan Asylum Lds. S.D. 2,035 ft.

Tiner et al No. 1 Rainwater, sec. 34, Blk. 2, S.P. Sur. Drlg. 2,363 ft.

Nolan County

Dr. Robinson Co. No. 1 E. Gabler, sec. 26, Blk. X, T.&P. Sur. S.D. 2,118 ft.

Pecos County

Bahan & Rhodes No. 1-B Bonebrake, sec. 116, Blk. 8, H.&G.N. Sur. T.D. 2,290 ft.; fsg.

C. A. Everts No. 1 W. S. Tyrell, sec. 508, G. Montez & Duran Sur. Drlg. 2,400 ft.

Hightower Oil Corp. No. 1 Holmes, sec. 6 Blk. C-3, E.L.R.R. Sur. T.D. 2,285 ft.; ran csg.

Humble O. & R. Co. No. 1 E. M. Gray, sec. 94, Blk. 11, G.H.&S.A. Sur.; 5,000-ft. test. R.U.S.T.

Lee Pet. Corp. et al No. 1 J. L. Nutt, sec. 1, W. D. Henley Sur. Drlg. 610 ft.

E. R. Minshall, No. 1 Banker, sec. 25, Blk. 146, T.&St.L. Sur. S.D. 2,815 ft.

S. Thompson No. 1 Elsinore Cattle Co., sec. 54, Blk. D, G.C.&S.F. Sur. Fsg. 4,171 ft.

Young No. 1 Bailey, sec. 23, Blk. 178, T.C. R.R. Sur. Drlg. 1,522 ft.

Young Oil Co. No. 1 Perry, 1,650 ft. from S and 2,310 ft. from E. sec. 3, Blk. Z, T.C. Sur. M.I.M.

Presidio County

L. C. Brite No. 4 fee, C NW¼ sec. 113, Blk. 12, G.H.&S.A. Sur. Drk.

Lindeman Bros. Oil Corp. No. 1 J. R. Bledsoe & Badgley, sec. 15, Blk. 351, G.C.&S.F. R.R Co. Sur., 2½ mi. NE of Presidio. S.D. 3,300 ft.

A. H. Main No. 1 Greenlee, sec. 40, Blk. 347, 13 mi. NE of Marfa. M.I.M.

Reagan County

Bahan & Rhodes No. 1 Kloh, sec. 37, Blk. 37, Twp. 5s, T. & P. Sur., NW cor. of county. T.D. 525 ft.; U.R. csg.

Grisham & Hunter No. 1 Montgomery, 1,650 ft. from N and 330 ft. from W. sec. 1, W. B. King Sur. M.I.M.

Schleicher County

Mangus Oil Co. No. 1 Judkins & Spencer, C SW¼ sec. 4, W. W. Russell, grantee. Elev. 2,209 ft.; T.D. 6,527 ft.; P.B. 5,912 ft.; C.O.

Terrell County

Ohio Oil Co. No. 1 M. H. Goode, sec. 26, Blk. 161, G.C.&S.F. Sur. Fsg. 7,770 ft.

J. T. Stockwell et al No. 1 Bates-Felps, sec. 5, Blk. A-4, G. W. Turley Sur., 17 miles SE of Yates field. To deepen from 5,605 ft. to 6,500 ft.

Terry County

W. L. Pickens et al No. 1 Lewright, sec. 1, Blk. C-37, P.S.L. Sur. Drlg. 3,800 ft.

Uscan Oil Co. No. 1 Brownfield, C N¼ sec. 54, Blk. K, P.S.L. Sur. S.D. 5,515 ft.

Upton County

R. H. Henderson No. 1 Reese, sec. 16, Blk. 3½, C.C.S.D.&R.G.N.G. Sur. T.D. 3,080 ft.; P.B. 2,900 ft.

Moore Bros. No. 1 Giddings, Sub. 25 Throckmorton Co. Sch. Lds. Drlg. 4,212 ft.

J. H. Myles & Son No. 1 Hughes, sec. 91, Blk. Y, G.C.&S.F. Sur. S.D. 700 ft.

Dan Short No. 1 Webb, sec. 174, Blk. E, C.C.S.D.&R.G.N.G. Sur. Fsg. 875 ft.

Ward County

Bentley & Massey No. 1 Boogher. Drlg. 2,002 ft.

Findley & Cherry No. 1 Sealey, sec. 54, Blk. F, G.M.M.B.&A. Sur. T.D. 3,209 ft.; to acidize.

Winkler County

Adams & Bradley No. 1 Edwards, sec. 6, Blk. C-23. Drlg. 2,700 ft.

Read & Duffey No. 1 Sealey, sec. 8, Blk. A, G.M.M.B.&A. Sur. S.D. 4,508 ft.

Richardson Oils, Inc., No. 1 Humble-Walton, sec. 3, Blk. B-3, P.S.L. Sur. Drlg. 2,335 ft.

Sun Oil Co. No. 1 Edwards, sec. 6, Blk. C-23, P.S.L. Sur. Drlg. 1,372 ft.

York & Harper et al No. 1 Gunter & Munson, 660 ft. from N and W, sec. 7, Blk. C, G.M.M.B.&A. Sur. Drlg. 210 ft.

Yoakum County

Texas Pacific Coal & Oil Co. No. 1 Bennett, sec. 678, John H. Gibson Sur. Drlg. 5,056 ft.

RANGER (CENTRAL TEXAS) DISTRICT

Callahan County

H. V. House et al No. 1 R. Smart "B," 5 mi. SW of Admiral, W. T. Lassiter Sur. Drlg. 770 ft.

Hal Hughes No. 2 Williams, 7 mi. NE Baird, C SE¼ SE sec. 61, B.O.A. Sur. 2,500-ft. test. Drlg. 1,350 ft.

Mesa Verde Oil Co. No. 1 Klepper, 3 mi. N Clyde, sec. 69, B.B.B.&C. Sur. Drlg. 825 ft.

F. R. Midkiff No. 1 Hunt, NE cor. county, sec. 107, University School Lands. Loc.

J. V. Wright No. 1 Warren, 150 ft. from N and E of S 20-ac., W½ SW¼ sec. 110, B.B.B.&C. Sur. R.U.; N edge Baird.

Coleman County

Anzac Oil Corp. et al No. 1-H Morris, 12 mi. NE Coleman, J. Harris Sur. No. 77. Drlg. 50 ft.

Midfield Oil Co. No. 1 T. H. Ward, sec. 274, W. Echels Sur. S.D.O. 1,500 ft.

Comanche County

H. L. Baughman No. 1 Hardin, Isa Hoxey Sur. S.D. 800 ft.

Eastland County

F. J. Estes No. 1 Gentry, A. Popejoy Sur. S.D. 2,500 ft.

Hamilton County

Seaboard Oil Co. No. 1 fee, A. C. Grimes Sur., 10 mi. N of Huntington. S.D. 3,635 ft.

Palo Pinto County

D. H. & C. Drlg. Corp. No. 1 Davenport, 6 mi. SE Palo Pinto, L. F. Margaret Sur. A-309. T.D. 2,000 ft.; moving in rotary.

Paul Garrett No. 1 Mabry heirs, NE cor. county, 450 ft. from E and 600 ft. from S of sec. 2,572, T.E.&L. Sur. Drlg. 210 ft.

Palo Pinto O. & G. Corp. No. 1 Zimicki N edge Strawn, Henry Bird Sur. Set 6-in. 2,975 ft.

Shackelford County

H. C. Akins et al No. 1 J. E. Swenson, C E½ sec. 14, A.B.&M. Sur. Loc.

Albany Oil Co. & Freeman No. 1 Isaacson, 4 mi. NW Morris-Buie pool, sec. 20, D.& S.E. Sur. Drlg. 1,634 ft.

Butler, Calhoun & Boynton No. 1 W. H. Green, 12 mi. SW of Albany, sec. 65, T. &P. Sur., Blk. 12. S.D. 1,400 ft.

Jones & Stasney et al No. 1 Dawson & Conway, 2 mi. N Morris-Buie pool, C SW SE¼ sec. 195, E.T.R.R. Sur. Drlg. 1,640 ft.

Owen-Snebold Oil Corp. No. 1 Ivey, NW cor. county, sec. 159, B.B.B.&C. Sur. Drlg. 1,820 ft.

Roeser & Pendleton No. 1 Dawson & Conway, CWL of county, sec. 209, E.T.R.R. Sur. Drlg. 1,100 ft.

Ungren & Frazier et al No. 1 Snyder, 3 mi. SW Sedwick, sec. 26, L.A.L. Sur. Ellenburger test. S.D. for rotary.

Stephens County

C. B. Christie et al No. 1 E. S. Maury, 4 mi. W of Crystal Falls, J. Koehler Sur., Abst. 26. S.D. 1,700 ft.

W. T. Garret et al No. 1 Echols, 6 mi. SE of Ivan, W½, sec. 10, Blk. 3, S.P.R. R. Sur. Drlg. 2,100 ft.

Hanrahan & Bedingfield No. 1 Guest, 2 mi. NW Frankell, 350 ft. from E, 700 ft. from S, NW¼ sec. 30, T.&P. Sur., Blk. 6. Moving in.

Mudge Oil Co. No. 1 W. P. Smith, 2 mi. NW of Ivan, sec. 14, S.P.R.R. Sur., Blk. 2. S.D. 2,600 ft.

Tarrant County

F. E. Hoffpauir et al No. 2 W. H. Davis, 2 mi. S Arlington, H. Blackwell Sur., Pat. 3-1,197. Drlg. 1,378 ft.

Throckmorton County

R. J. Williams et al No. 1 W. B. Parrott, 4 mi. NW of Woodson, sec. 961, T.E.&L. Sur. Drlg. 2,600 ft.

Rocky Mountain Runs

Daily average production estimates for week ending January 9:

WYOMING

	Bbls.
Salt Creek	15,790
Big Muddy	1,740
Badger Basin	40
Black Mountain	80
Byron	80
Dallas Derby	630
Dutton Creek	60
Elk Basin	490
Ferris	10
Frannie	370
Garland	2,260
Grass Creek	1,290
Hamilton dome	650
Hidden dome	500
Hudson	320
LaBarge	940
Lance Creek	7,390
Lost Soldier	1,320
Medicine Bow	2,660
Midway	30
Oregon Basin	2,210
Osage	650
Pilot Butte	20
Quealy dome	620
Rock River	1,280
South Casper	550
Poison Spider	230
Simpson Ridge	10
Teapot	20
Waugh dome	120
Total Wyoming	42,290

MONTANA

Buckley Border	220
Cat Creek	660
Cut Bank	10,220
Dry Creek	310
Kevin-Sunburst	4,270
Lake Basin	40
Pondera	1,450
Total Montana	17,170

COLORADO

Florence	200
Fort Collins and Wellington	300
Iles dome	2,410
Moffat	450
Orchard	30
Rangely	80
Tow Creek	200
Total Colorado	3,670

NEW MEXICO

Artesia	630
Cooper	7,670
Eunice	29,870
Getty	150
Hobbs	21,900
Hogback	190
Jal	3,720
Lea	1,010
Maljamar	2,510
Monument	12,310
Rattlesnake	390
Table Mesa	40
Total New Mexico	80,390
Total Rocky Mountain region	143,520

Properties of U.S.S.R. Crudes

By GUSTAV EGLOFF
Universal Oil Products Co.

The U.S.S.R. is the second largest oil-producing country in the world. Three producing areas, Grozny, Baku and the Ural Mountains, have A.P.I. gravities which vary from 30 to 35.6 with gasoline contents ranging from about 22 to 29 per cent. The sulfur content ranges from less than 0.1 in a Grozny crude to 2.8 per cent in a crude from the Ural Mountains.

Note: These analyses of U.S.S.R. crudes are a continuance of a report covering foreign crude oils started in December 31 issue.

RUSSIAN CRUDE OILS

Fractions removed—	Crude	350° F. gasoline	370° F. gasoline	Topped crude
Hempel Distillation				
Yields, volume per cent of crude	100.0	18.7	21.6	80.6-77.5
Properties of Fractions				
Gravity, °A.P.I.	34.5	61.3	61.6	27.9
Sp. gr. at 60° F.	....	....	....	....
Color, °Saybolt	....	30+	....	....
Gum (copper dish), mg./100 cc.	....	4	....	....
Doctor test	....	Positive	....	....
Sulfur, per cent	0.3	0.03	....	0.3
Octane number	....	49	46	....
Flashpoint (Cleveland open cup), °F.	....	....	....	....
Firepoint (Cleveland open cup), °F.	....	....	....	....
Flash point (Pensky-Martens, °F.	....	....	....	135
Viscosity (Universal), sec. at 100° F.	....	....	....	....
Viscosity (Universal), sec. at 122° F.	....	....	....	....
Viscosity (Furol), sec. at 77° F.	12	....	....	....
Viscosity (Furol), sec. at 122° F.	....	....	....	....
B.s. and w., per cent	0.4	....	....	0.6
Cold test, °F.	15	....	....	....
Initial B.P.	140	114	114	400
Per cent distilled over:				
5	190	....	....	....
10	248	160	174	465
20	346	180	196	520
30	440	....	....	588
50	607	226	246	687
70	698	....	....	720
90	724	295	322	....
Endpoint	740	349	370	....
Total per cent over	97.0	99.0	99.0	96.0
Per cent bottoms	....	1.0	1.0	....
Per cent coke by weight	3.0	....	....	4.3
Per cent loss	....	0.0	0.0	....
Per cent at 410° F.	27.0	....	....	....
Per cent at 437° F.	29.5	....	....	5.0
Per cent at 572° F.	45.0	....	....	27.5

Remarks: Asphalt content of crude 100 per cent penetration asphalt at 140° F.—28.4. Engler distillation.

RUSSIAN CRUDE OILS

Source of crude—	Russian Grozny "mixture"	Czechoslovakia Egbell
Hempel Distillation		
Fractions removed	none	none
Yields, volume per cent of crude	100.0	100.0
Properties of Fractions		
Gravity, °A.P.I.	31.8	19.7
Specific gravity at 60° F.	....	....
Sulfur, per cent	0.12	0.12
Flashpoint (Cleveland open cup), °F.	190	230
Firepoint (Cleveland open cup), °F.	220	260
Flashpoint (Pensky-Martens), °F.	180	220
Viscosity (Universal), sec. at 100° F.	....	....
Viscosity (Universal), sec. at 122° F.	....	....
Viscosity (Furol), sec. at 77° F.	29	44
Viscosity (Furol), sec. at 122° F.	....	....
B.s. and w., per cent	0.3	0.2
Cold test, °F.	80	Below 0
Engler Distillation (°F)		
Initial B.P.	370	456
Per cent distilled over:		
5	415	491
10	452	510
20	532	548
30	597	587
50	682	662
70	....	718
90	760+	734
Endpoint	760+	741
Total per cent over	98.5	98.0
Per cent bottoms	1.5	....
Per cent coke by weight	....	2.1
Per cent at 410° F.	4.5	....
Per cent at 437° F.	8.0	....
Per cent at 572° F.	26.0	26.0

Remarks: No hempel breakup of either of these crudes was given.

RUSSIAN (GROZNY) CRUDE OILS

Fractions removed—	Crude	360° F. gasoline	392° F. gasoline	400° F. gasoline	410° F. gasoline	437° F. gasoline	Topped crude
Hempel Distillation							
Yields, volume per cent of crude	100.0	18.4	22.8	23.8	24.9	29.2	70.4-81.3
Properties of Fractions							
Gravity, °A.P.I.	35.6	62.7	59.8	59.2	58.4	56.3	27.5
Specific gravity a 60° F.	....	....	....	....	....	....	....
Color, °Saybolt	....	....	....	30	....	....	....
Gum (copper dish), mg./100 cc.	....	....	....	3.0	....	....	....
Doctor test	....	....	....	Positive	....	....	....
Sulfur, per cent	Less than 0.1	....	....	Less than 0.1	....	....	0.05
Octane number	....	....	....	....	....	37	....
Flashpoint (Cleveland open cup), °F.	....	....	....	....	....	....	280
Firepoint (Cleveland open cup), °F.	....	....	....	....	....	....	315
Flashpoint (Pensky-Martens), °F.	....	....	....	....	....	....	270
Viscosity (Universal), sec. at 100° F.	....	....	....	....	....	....	....
Viscosity (Universal), sec. at 122° F.	....	....	....	....	....	....	....
Viscosity (Furol), sec. at 77° F.	....	....	....	....	....	....	80
Viscosity (Furol), sec. at 122° F.	....	....	....	....	....	....	....
B.s. and w., per cent	0.3	....	....	....	....	....	0.7
Cold test, °F.	....	....	....	....	....	....	82
Engler Distillation (°F.)							
Initial B.P.	148	112	125	127	130	138	502
Per cent distilled over:							
5	230	152	165	168	170	180	542
10	278	172	185	188	191	201	565
20	352	195	211	214	217	228	608
30	456	....	....	....	....	....	650
50	608	237	262	266	270	290	710
70	722	....	....	....	....	....	....
90	....	302	341	348	357	394	....
Endpoint	....	356	392	400	409	439	....
Per cent over	98.0	98.5	99.0	99.0	99.0	99.0	96.0
Per cent bottoms	....	1.0	0.5	0.5	0.5	0.5	....
Per cent coke by weight	2.1	....	....	....	....	....	4.2
Per cent loss	....	0.5	0.5	0.5	0.5	0.5	....
Per cent at 400° F.	22.5	....	....	....	....	....	....
Per cent at 410° F.	25.5	....	....	....	....	....	....
Per cent at 437° F.	28.0	....	....	....	....	....	....
Per cent at 572° F.	45.0	....	....	....	....	....	11.0

RUSSIAN (URAL MOUNTAINS) CRUDE OILS

Fractions removed—	None	200° F. gasoline	250° F. gasoline	300° F. gasoline	350° F. gasoline	392° F. gasoline	400° F. naphtha	Kerosene	Light gas oil	Heavy gas oil	Diesel fuel	Comp. gas oil	Asphalt bottoms
Yields, volume per cent of crude	100.0	9.8	14.6	18.8	24.0	29.1	14.5	14.2	30.8	25.3	19.6	56.1	14.8
Properties of Fractions													
Gravity, °A.P.I.	30.1	82.4	76.0	69.3	64.3	61.1	51.4	38.6	33.7	18.5	27.2	26.5	4.8
Specific gravity at 60° F.	0.8756	0.662	0.682	0.705	0.723	0.735	0.774	0.832	0.857	0.943	0.892	0.896	1.038
Color, °Saybolt	....	30	30	....	....	....	yellow	....	....	....	....	....	....
Doctor test	....	Positive	Positive	Positive	Positive	Positive	Positive	....	....	....	....	....	....
Sulfur, per cent (H_2S free)	....	....	0.09	0.19	0.31	0.41	....	....	....	....	....	....	....
(Total)	2.80	....	0.19	0.46	0.57	0.65	0.82	1.36	2.03	3.04	2.67	2.47	....
Octane number	....	72	68	60	54	48	36	....	....	....	....	....	....
Flashpoint (Cleveland open cup), °F.	....	....	....	....	....	....	....	....	210	420	330	235	....
Firepoint (Cleveland open cup), °F.	....	....	....	....	....	....	....	....	220	450	....	255	....
Flashpoint (Pensky-Martens), °F.	....	....	....	....	....	....	....	132	172	405	270	218	....
Viscosity (Universal), sec. at 100° F.	....	....	....	....	....	....	....	....	40	670	....	65	....
Viscosity-Saybolt-Thermo	....	....	....	....	....	....	....	465	....	....	....	....	....
Viscosity (Furol), sec. at 77° F.	....	....	....	....	....	....	....	....	....	....	....	....	....
Viscosity (Furol), sec. at 122° F.	....	....	....	....	....	....	....	....	....	32	....	....	....
B.s. and w., per cent	....	....	....	....	....	....	....	....	Trace	0.2	0.1	0.1	....
Cold test, °F.	....	....	....	....	....	....	....	....	Below 0	80	....	55	....
Engler Distillation (°F.)													
Initial B.P.	102	82	100	100	114	101	246	393	....	....	521	427	....
Per cent distilled over:													
5	181	92	111	120	135	138	259	408	....	....	549	462	....
10	235	98	117	133	147	153	268	414	....	....	558	476	....
20	340	110	125	154	168	185	279	424	....	....	588	508	....
30	424	119	139	167	188	208	288	432	....	....	592	541	....
50	608	135	160	199	227	255	306	448	....	....	619	632	....
70	661	152	183	228	262	299	329	470	....	....	649	689	....
90	685	177	214	262	296	353	363	505	....	....	686	725	....
Endpoint	703	204	251	300	350	394	397	542	....	....	725	760	....
Total per cent over	93.5	97.5	97.0	98.0	98.0	97.0	99.0	98.5	....	....	99.0	98.5	....
Per cent bottoms	....	1.0	1.0	1.2	1.2	1.0	1.0	1.5	....	....	1.0	1.5	....
Per cent coke by weight	4.9	....	....	....	....	....	....	....	....	....	....	....	....
Per cent loss	....	1.5	2.0	0.8	0.8	2.0	0.0	....	....	....	....	....	....
Per cent at 400° F.	25.5	....	....	....	....	....	....	....	....	....	....	....	....
Per cent at 437° F.	31.0	....	....	....	....	....	....	....	....	....	....	....	....
Per cent at 572° F.	46.0	....	....	....	....	....	....	....	....	....	....	36.0	....
Per cent at 300° F.	16.0	....	....	....	....	....	....	....	....	....	....	....	....
Remarks:													
Conradson carbon residue, per cent	....	....	....	....	....	....	....	....	6.00	1.90	....	0.68	....
Pentane, insol., per cent	....	....	....	....	....	....	....	....	0.00	0.60	....	0.25	....
Tar number	....	....	....	....	....	....	....	....	6.5	21.2	....	11.0	....
Penetration at 77° F.	....	....	....	....	....	....	....	....	....	....	....	....	19

MARKET RECORD, ACTIVE OIL STOCKS

Compiled by Carl H. Pforzheimer & Co., 25 Broad Street, New York City, Members New York Stock Exchange and New York Curb Exchange

New York Stock Exchange

1937 High	1937 Low	Week ended Jan. 9 Sales	Week ended Jan. 9 High	Week ended Jan. 9 Low	Week ended Jan. 9 Close	Stocks—	Total shares outstanding	Par value	Latest dividend	Payable or last paid	Dividends paid in 1936	1936 High	1936 Low	1935 High	1935 Low
125½	75	12,900	110⅞	101	108	Amerada Corp.	788,675	N.P.	50cQ	1-30-37	$2.00	80	48½	55⅝	39
35⅛	26⅝	25,300	32⅜	30⅛	31⅞	Atlantic Refining	2,664,904	$25	50cQ¶	12-15-36	1.25	28	20½	35¼	21½
40⅜	21	45,000	40⅜	33⅞	39½	Barber Co.	387,149	$10	50c	12-10-36	.50	22½	11¾	23½	12
30½	14⅛	94,800	30½	26⅛	30¼	Barnsdall Oil Co.	2,131,090	$5	25cQ	2-1-37	.80	14¾	5⅞	10	5⅞
23⅜	14	178,500	19¾	18⅛	19⅛	Columbia Gas & Elec.	11,610,036	N.P.	20c	11-16-36	.40	15¾	3⅜	19¼	6⅝
17¼	11½	145,400	17¼	16	16¾	Consolidated Oil Corp.	13,983,287	N.P.	20cQ	2-15-37	.80	12¼	6½	14¼	7¼
45¼	28⅛	30,500	45¼	42¼	45	Continental Oil of Delaware	4,682,671	$5	25c Spl.	12-15-36	1.50	35	15⅛	22¾	15¾
14½	6⅜	88,000	14½	12½	14½	Houston Oil (new)	1,098,618	$25	....	10-17-30	....	7	1½	5⅝	2½
31⅝	17¼	16,500	31⅝	29¼	30¾	Mid-Continent Petroleum	1,843,872	$10	75cSA	12-1-36	1.15	20½	9½	14¾	9⅛
29⅞	16¾	4,300	29	27⅝	27⅝	Mission Corporation	1,399,345	N.P.	....	.....	.45	17¾	10⅜	..	..
75½	19⅞	4,600	67¾	66	67¼	National Supply of Delaware	382,591	$25	....	5-15-31	....	20⅞	9	21⅛	10
18⅞	12⅛	107,200	18⅞	17⅛	18⅝	Ohio Oil Co.	6,563,377	N.P.	35cSA	12-15-36	.60	14¼	9¼	15⅞	8½
26⅜	11⅜	27,200	26⅜	22¼	25⅛	Pacific Western Oil	1,000,000	N.P.	65c	12-18-36	.65	14	6¾	9⅜	5½
4¼	1⅜	1,100	3⅛	3	3⅛	Panhandle P. & R.	198,770	N.P.	....	.....	....	1⅞	½	2½	⅝
52½	38⅛	25,200	52½	49½	51⅝	Phillips Petroleum	4,152,836	N.P.	$1Q¶	12-1-36	2.50	40	13¾	20¾	13⅜
27⅜	11⅞	14,800	26⅞	25¾	26⅜	Plymouth Oil Co.	1,050,000	$5	40c	12-22-36	.90	13	6½	16¾	7¼
24⅞	16	161,300	22⅞	19¾	22	Pure Oil Co.	3,038,370	N.P.	....	9-1-30	....	17	5⅞	14⅞	6⅛
44	30½	21,900	43	41⅛	42	Seaboard Oil of Delaware	1,244,283	N.P.	25cQ	12-15-36	1.00	36⅞	20¾	33⅜	20¾
29¾	14¾	31,500	29¾	27½	29	Shell Union Oil	13,070,625	N.P.	25c	12-15-36	.25	16½	5½	11½	6
127½	102¼	6,200	103⅛	102¼	103⅛	Shell Union Oil 5½% pfd.	400,000	$100	26⅛c	12-15-36	28.87½	111	63⅛	89	57
6¾	3½	3,900	3⅞	3½	3¾	Simms Petroleum	461,698	$10	$1.25 liq.	7-20-36	2.25 liq.	18¾	4¾	17⅛	7¼
47⅜	19½	8,700	47	44¼	44¼	Skelly Oil	1,008,514	$15	....	12-15-30	....	20½	6½	11½	6
17½	12½	98,500	17⅛	16½	16⅞	Socony-Vacuum	31,151,075	$15	25cSpl.	12-15-36	.70	15¾	10⅝	19⅞	12½
47⅝	35	41,000	45¼	43½	44⅞	Standard Oil of California	13,014,754	N.P.	30cQ¶	12-15-36	1.20	41⅛	27¾	42⅞	26½
48½	32¾	18,200	48	46½	46⅝	Standard Oil (Indiana)	15,215,677	$25	$1.25Q¶	12-15-36	2.40	33⅜	23	32¾	23¼
30¾	25	No sales	..	..	..	Standard Oil of Kansas	200,000	$10	$1	12-26-36	1.00	32	20	41	26
70⅜	51⅛	44,200	69	67¾	68½	Standard Oil of New Jersey	25,856,081	$25	$1.25SA¶	12-15-36	2.00	52⅜	35¾	50⅛	39¼
91	70	1,600	77	74⅜	77	Sun Oil	1,733,013	N.P.	25cQ**	12-15-36	$1 & 6% Stk.	77	60½	74¼	51½
55¼	28⅞	41,600	54¾	52⅝	54¾	Texas Corp.	9,340,069	$25	25cQ†	1-1-37	1.50	30¼	16½	29⅜	19⅝
8⅞	4⅜	34,500	8½	8¼	8¼	Texas Gulf Producing Co.	888,102	N.P.	5c	12-15-36	.05	4¾	2½	7	3⅜
15¼	7½	52,300	14⅞	13⅛	14⅞	Texas Pacific Coal & Oil	880,703	$10	25c	8-1-36	.25	9¼	3¼	6½	2½
21¾	14¾	12,400	21⅜	20⅝	21	Tide Water Associated	5,642,342	N.P.	15cQ	12-1-36	.70	15⅞	7⅝	14⅜	8
106½	100⅝	5,100	106⅛	105⅛	106⅛	Tide Water Associated pfd.	626,221	$100	$1.50Q	1-2-37	6.00	104½	84	87	64½
28½	20¾	14,000	26⅛	25¼	25¾	Union Oil of California	4,386,070	$25	25cQ	11-10-36	1.00	24	14¾	20½	11½
31¾	22¾	8,600	29½	26⅝	29	Union Tank Car Co.	1,200,000	N.P.	30cQ	12-1-36	1.20	26½	20⅞	25¾	15⅝
5¼	2¾	21,200	5¼	4½	4¾	Wilcox Oil & Gas	424,839	$5	....	5-10-28	....	3⅛	1	5¾	2

*Ex-dividend. †Plus extras. ‡Also 50 per cent in stock of Barnsdall Ref. §Partly on account of accumulation. ‖Dividend 4/75 Mission Corp. paid 3-15-35. ¶Includes extras. **Plus 6% stock.

New York Curb Exchange

1937 High	1937 Low	Week ended Jan. 9 Sales	Week ended Jan. 9 High	Week ended Jan. 9 Low	Week ended Jan. 9 Close	Stocks—	Total shares outstanding	Par value	Latest dividend	Payable or last paid	Dividends paid in 1936	1936 High	1936 Low	1935 High	1935 Low
21	13¼	4,800	18⅝	17⅛	18⅜	Bridgeport Machine Co.	260,000	N.P.	$1	12-21-36	$1.00	14⅛	3¾	3¾	½
50	39¾	100	47	46¾	47	Buckeye Pipe Line Co.	200,000	$50	$1Q	12-15-36	3.25	42½	30½	38	26
4⅞	1⅞	14,000	2½	2¼	2⅜	Carib Syndicate	799,020	25c	....	.....	....	4¼	1⅝	5½	1½
124¾	105	100	113	110¼	113	Chesebrough Mfg. Co.	120,000	$25	$2.50Q†	12-21-36	7.00	157	115	150	116
7⅝	3	129,500	4⅝	4	4⅝	Cities Service	37,804,394	N.P.	....	6-1-32	....	3¼	⅜	4¼	1¼
4½	1½	41,400	4½	3⅝	4	Cosden Oil	399,687	$1	....	.....	....	1½	¼	3⅞	½
39	19⅞	8,700	37¾	35¼	36⅛	Creole Petroleum	6,974,356	$5	25cSA	12-15-36	.50	23¾	10	14⅝	9⅝
18⅛	9	2,300	17⅝	16⅞	17	Darby Petroleum	351,390	$5	25cSA	7-15-36	.50	8⅞	4	7½	4⅛
6¾	1⅞	3,300	6⅛	5¼	6⅛	Derby Oil & Refining	263,162	N.P.	....	.....	....	2	¾	2¼	1
47	38½	No sales	..	..	..	Eureka Pipe Line	50,000	$50	$1Q	11-2-36	4.00	38	33¼	37	30
62⅞	54	43,500	62⅞	58	61⅝	Gulf Oil Corp.	9,076,202	$25	75c†	12-10-36	1.50, 100% Stk.	74¾	50¼	76¾	49¾
81½	57	10,700	81½	77½	79⅞	Humble Oil & Refining	8,923,935	N.P.	50c†	12-26-36	1.50	64	44	49½	33¼
24½	19¾	14,500	22	21	21½	Imperial Oil of Canada	26,919,871	N.P.	62½cSA†‡	12-1-36	1.25	22½	15⅜	17⅞	12⅝
9⅜	5½	1,300	8⅜	7¾	8⅛	Indiana Pipe Line	300,000	$10	20c Spl.	12-17-36	.80	6⅛	3⅝	6⅞	3⅝
39⅝	32⅞	9,200	36	33¾	35⅝	International Petroleum	14,247,088	N.P.	$1.25†‡	12-1-36	2.50	39¾	28	33⅜	19⅜
15⅜	9⅞	14,800	14½	13⅞	13⅞	Louisiana Land & Exp.	3,000,000	N.P.	20cQ†	12-15-36	.50	11⅜	4⅜	5	2⅛
17¾	7⅜	14,500	17¾	16⅜	17⅝	Lion Oil Refining	270,000	N.P.	25cQ	12-26-36	.75	8⅛	3½	6	3⅜
14¼	9⅞	7,200	12½	11¾	12½	Lone Star Gas	5,382,723	N.P.	20c	12-24-36	.60	10⅞	4½	8⅜	4¼
8⅜	5	3,800	6⅜	6	6⅜	Mountain Producers	1,682,182	$10	30cSA	12-21-36	.60	5¾	4⅛	5½	4
23	17⅜	3,500	18¼	17½	18⅛	National Fuel Gas	3,810,183	N.P.	25cQ	1-15-37	1.00	20	11¾	18⅛	13⅛
15¾	9¼	1,400	10½	10¼	10½	National Transit	500,000	$12.50	35cSA	12-15-36	.75	10⅝	6¾	9½	7
5	2⅞	500	5	4¾	5	New Bradford Oil	1,445,202	$5	10cSA	5-15-36	.10	3¼	2	2½	1¾
6⅝	1⅝	2,400	5	4¼	4¼	New Mexico and Arizona	1,000,000	$1	1c	12-1-36	.01	2½	1	2¾	1
15¾	9¼	No sales	..	..	..	New York Transit	100,000	$5	15cSA	10-15-36	.35	4⅞	3	4¾	3
6¼	4¼	No sales	..	..	..	Northern Pipe Line	120,000	$10	35c	1-2-37	.40	8	5¼	7	4⅝
10⅛	3¼	117,200	9½	8¼	8¼	Pantepec Oil	1,608,700	N.P.	....	.....	....	4⅜	1¼	2⅝	⅞
19¼	4½	2,000	13¾	13	13¼	Root Petroleum Co.	336,045	$1	25c	11-2-36	.50	5	1½	..	..
5⅛	1⅞	5,700	5⅛	4¼	4⅞	Ryan Consolidated	296,931	N.P.	....	.....	....	2½	⅝	3⅜	⅞
46	32½	2,700	46	44	45¾	South Penn Oil	1,200,000	$25	90c†	12-29-36	2.60	34½	21⅝	26½	17½
7⅞	3¼	2,100	6⅝	5½	6⅝	Southern Pipe Line	100,000	$10	10cSA	9-1-36	.25	5	3⅞	5½	3½
49	44	No sales	..	..	..	South West Penna. Pipe Lines	35,000	$50	$1Q	10-1-36	13.00	56	44¼	47	41
23⅜	17⅛	4,200	20¼	19⅜	20¼	Standard Oil of Kentucky	2,604,790	$10	50cQ†	12-15-36	1.35	24	18	18⅜	14⅝
14⅜	11	500	12¼	11½	12¼	Standard Oil of Nebraska	188,403	$25	25c	12-19-36	.25	12	7¾	16⅞	8¼
40	21¾	3,300	37¾	36¾	37	Standard Oil of Ohio	753,740	$25	$1.50†	12-21-36	2.00	23⅝	11½	28½	12¼
5	2⅝	23,500	4½	4	4½	Sunray Oil	1,610,810	$1	5c	12-21-36	.10	2¾	⅞	2	⅟₁₆
9¾	5⅜	4,900	6⅞	6⅛	6⅞	Texon Oil & Land	336,028	$2	15cQ	12-28-36	.60	6⅞	5	11	4⅜

*Ex-dividend. †Includes extras. ‡Payable in Canadian funds. §New stock.

Note—In comparing highs and lows for the several years in the two tables, it will be necessary to take into consideration cases where there have been stock split-ups.

PERSONAL

E. L. STAUFFACHER, superintendent of construction, Empire Oil & Refining Company is being transferred effective February 1 to Chicago, where he will have charge of all engineering work of Cities Service Oil Company (Del.), according to an announcement by E. L. PECK, manager of the gasoline division of the Empire Oil & Refining Company. Mr. Stauffacher has been with the Empire since June, 1924, following his graduation in mechanical engineering from the University of Minnesota. After various field assignments he was made construction engineer in 1930, to which was added the duties of plant superintendent.

EVAN JUST, division petroleum engineer for the Carter Oil Company, central division, resigned January 1 to become secretary of the Tri-State Zinc and Lead Ore Producers Association, with offices at Picher, Okla.

E. C. MONCRIEF, formerly chief geologist and head of the land department for Derby Oil & Refining Company, has resigned and formed a partnership with D. R. LAUCK, oil operator, with headquarters in Wichita, Kans.

V. E. BUSBY, foreign sales representative for Mason-Neilan Regulator Company, sailed Wednesday for Europe, where he probably will establish an office at The Hague. The company has offices at Paris and Bucarest. Mr. Busby recently returned from a trip to South America, where he visited in Venezuela, Trinidad and the Dutch West Indies.

HAROLD D. FELL, of Ardmore, Okla., vice president for southern Oklahoma of the Independent Petroleum Association, and CHARLES R. MUSGRAVE, Bartlesville oil man, were named by Governor Marland as representatives of employers on the advisory council on unemployment compensation.

WILLARD H. DOW, president of Dow Chemical Company, has been elected a director of the American Chemical Society, largest professional organization of chemists in the world with a membership approaching 20,000. Mr. Dow joined the society's board January 1, and will serve until December, 1940.

W. S. HILL, formerly in charge of lands and scouts of the Louisiana district for the Continental Oil Company, has become associated with George F. Getty, Inc., it was announced by H. K. V. TOMPKINS, vice president in charge of the recently opened Fort Worth, Tex., office. Mr. Hill will be office assistant for the Getty interests at Fort Worth. He is widely experienced in land matters in the Coastal area, Southwest Texas, East Texas, West Texas and Oklahoma.

A. R. CARMODY, vice president of North Central Texas Oil Company, Shreveport, La., has been visiting in Tulsa during the week.

DONALD J. MacNEIL, for several years engaged as geologist in British Columbia, has been appointed to the geological staff of the Shell Petroleum Corporation.

J. B. RODGERSON, plant superintendent for Lion Oil & Refining Company, El Dorado, Ark., attended the W.P.R.A. technical group meeting held in Shreveport, La., on January 8.

C. E. NABUCO DE ARANJO, JR., with associates in the lubricating department of Standard Oil Company of Brazil at Rio de Janeiro, have published a book, "Petroleo," in Portuguese. This is the first book on oil and its products published in that language.

R. V. STOUT has joined the Lucey Products Corporation and will be in charge of the firm's production equipment business in Kansas. He formerly was with John R. Long Company, of Fort Worth, Tex., and previous to that was with Mid-Continent Supply Company.

R. A. HOWE, for many years assistant superintendent of production for the Standard Oil Company of Louisiana, has been promoted to superintendent of that department. He succeeds R. W. LOWE, connected with the company since 1910, who recently retired under the company's annuity and thrift plans.

CHARLES D. WATSON, proration engineer and a member of the board of directors of the Carter Oil Company, and PAUL B. DAVIDSON, clerk in the oil accounting department of the Oklahoma Pipe Line Company, a Carter affiliate, recently received diamond service pins, symbolic of 20 years' service with the companies.

Do You Remember?

From The Oil and Gas Journal Files

25 YEARS AGO

Prairie Oil & Gas Company raises its Kansas and Oklahoma crude oil price to 55 cents per barrel. Caddo, La., crude is raised to 38 cents by Standard of Louisiana.

Automobile manufacturers, amazed at the rapid growth in demand for their product, are beginning to worry over the supply of gasoline. "Can the oil industry keep pace with us?" is their cry.

Lord Cowdray disposes of his producing interests in Mexico to the Mexican Eagle Oil Company for $24,000,000 (Mexican dollars) taking stock in the company to the amount of $20,000,000 (Mex.). Mexican Eagle has heretofore been only a marketer.

20 YEARS AGO

R. L. Welch of Knoxville, Ia., general counsel for the Western Oil Jobbers Association, has been made secretary and general manager of the Western Refiners Association, succeeding H. G. James, who suggested Welch as his successor. The refiners and jobbers had been at loggerheads, but Welch and James got them together in amity.

Mid-Continent crude opens the year at $1.70 per barrel. Pennsylvania Grade crude is $3.05 the highest price since 1877.

Harry H. Rogers, Tulsa oil man, and state legislator was among those members of the legislature who voted to bar cigarettes from Oklahoma.

10 YEARS AGO

James C. Donnell, 72, president of the Ohio Oil Company, dies of a heart attack at his home in Findlay, Ohio. He entered the oil business in 1872, joined the rush to Bradford in 1878 and operated in that field until 1886, when he sold out and went to the new Lima field where he joined the Standard Oil Company. The Ohio was the first of the Standard's producing companies.

GRADY RUSSELL of Corpus Christi, Tex., has been transferred by the Railroad Commission to Eastland, Tex., to be supervisor over the Ranger district.

J. W. R. McLEOD, president of Freehold Oil Corporation of Vancouver, British Columbia, is in Calgary, Alberta, in connection with projected oil development.

MR. and MRS. ARCH ROWAN of Fort Worth, Tex., are spending a couple of weeks in Mexico City, Mexico, on vacation. Mr. Rowan is head of the Rowan Drilling Company.

GEN. GARNET HUGHES of Toronto, Ontario, and RAY WHALEN of Vancouver, British Columbia, have been elected to the board of directors of Pacalta Oils, Ltd. of Vancouver.

L. B. (RUBE) BENTON, geologist, Fort Worth, Tex., was married to MISS CORRINE GARRISON of that city on January 3, leaving immediately after on a honeymoon to points in California.

CHARLES B. JOHNSON, petroleum engineer for Barnsdall Oil Corporation, has been transferred from Oklahoma City to the Gulf Coast area, and will make his headquarters at Victoria, Tex.

A. R. CAMPBELL, secretary of Arkansas-Louisiana division of Mid-Continent Oil and Gas Association, Shreveport, La., is establishing temporary headquarters in the Marion Hotel, Little Rock, Ark., during the 1937 session of that state's legislature.

W. T. PAYNE, Oklahoma City, Okla., oil man, has sold his interest in the firm of Helmerich & Payne, Inc., Tulsa, and hereafter will be active in the Big Chief Drilling Co., which he organized last April. He has been a business associate of W. H. HELMERICH of Tulsa, head of Helmerich & Payne, Inc., since 1929.

PARAGRAPHS

R. L. GAY, of Zwolle, La., well-known oil operator, was elected illustrious potentate of El Karubah Shrine temple at the annual election held at the Scottish Rite cathedral in Shreveport, La.

A. M. BALLARD has resigned as vice president in charge of refinery operations and sales for Dickey Refining Company at Wichita, Kans. He will give his attention to personal producing properties in Kansas.

W. S. FARISH, chairman of the Standard Oil Company of New Jersey, left New York last week for Florida for a vacation and hunting trip. In Florida, Mr. Farish will join WALTER C. TEAGLE, president of the Standard of New Jersey, who left a few days ago.

W. A. HUGG, superintendent of the Humble Pipe Line Company's unit for 14 counties of Central Texas, with offices in Mexia, has been transferred to head a similar department in the Corpus Christi area. Mr. Hugg has been with the Humble company in and around Mexia for the past 16 years. M. L. McGANNON, present superintendent of the Conroe district of the Humble Pipe Line Company, will replace Mr. Hugg in Mexia.

CAPTAIN T. REIBER, chairman, and W. S. S. RODGERS, president, of the Texas Corporation, with JAMES A. MOFFETT, chairman of the California-Texas Oil Company, have returned to New York from a year-end trip to Houston, Tex., and other Gulf Coast points.

W. L. MARTWICK has been appointed general sales manager of the Foster Wheeler Corporation, with headquarters at the New York office, 165 Broadway. Mr. Martwick has been with the organization since 1926, when it acquired the Aero Pulverizer Company, of which he was president. The background of engineering and sales work, especially in connection with steam power plants and oil refineries, provided essential training for the new, broader duties and responsibilities. Mr. Martwick served in various divisions of Foster Wheeler, becoming manager of the steam division, from which he was advanced to his present post.

L. E. DOUGLASS, independent oil producer, of Hutchinson, Kans., started the new year off by selling the bulk of his properties in southern Rice County, Kansas, to Atlantic Refining Company for $800,000. According to announcement of the sale, Mr. Douglass was to receive $200,000 cash, and the remainder at the rate of $100,000 a year for the next six years. Property involved in the sale included three producing wells, one drilling well, $50,000 worth of equipment and 680 acres of leases in the Hauschild-Saxman-Theede district. The Hutchinson operator retained some of his property in the Hauschild pool, including three wells with total daily potential of 30,000 bbls.

MR. and MRS. J. EDGAR PEW of Philadelphia, Pa., have been spending the holidays in Dallas, Tex., with JOHN G. PEW, their son.

D. F. GERSTENBERGER has been appointed district manager in the Mid-Continent for the Alcorn Combustion Company, with headquarters in Tulsa.

J. E. GARNER has been named store manager at Monahans, Tex., for the Continental Supply Company, replacing J. E. BRIGGS, who recently resigned.

CAPT. LEE W. ADAMS, of the Atoka Gas Company, Toronto, Canada, was a recent visitor in Tulsa, his former home. He has been operating in Canadian fields since leaving Tulsa.

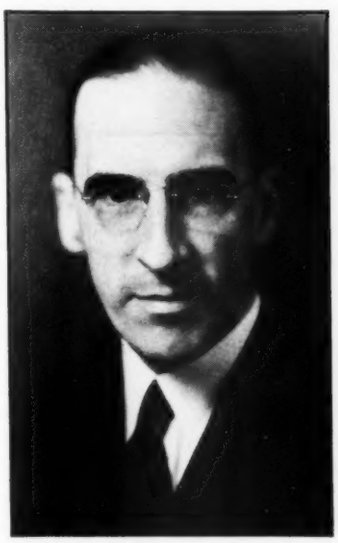
RAY E. MILLER, vice president of Hanlon-Buchanan, Inc., returned to his office in Tulsa Monday following a trip of several weeks in which he visited the company's Gulf Coast terminals at Houston and Corpus Christi, Tex., and New Orleans, La.

S. A. SHANNON, pioneer oil producer, and MRS. SHANNON, observed their sixtieth wedding anniversary recently at their home in Derrick City, Pa. They were married in Edenburg, Clarion County, Pennsylvania, but have lived in Derrick City, a suburb of Bradford, Pa., for 57 years.

DR. C. I. ALEXANDER, of the Magnolia Petroleum Company, was elected president of the South Louisiana Geological Society at its annual meeting at Lake Charles. J. S. KIRKENDALL of the Amerada Petroleum Company, was elected vice president: W. R. CANADA, of Stanolind Oil & Gas Company, secretary, and BAKER HOSKINS, of the Shell Petroleum Corporation, treasurer. R. B. GRIGSBY, of Stanolind Oil & Gas Company, is the retiring president.

Always a Doherty Man

David W. Harris, recently elected vice president of the Mid-Continent Oil and Gas Association for the Arkansas-Louisiana district, has been a Doherty organization man ever since he graduated from the Georgia School of Technology in 1912 with the degree of bachelor of science in electrical engineering. His first job was that of junior engineer with the Denver Gas and Electric Company in Denver, Colo. Shortly afterward he was advanced to the New York office of Henry L. Doherty & Company as director of the budget and assistant treasurer of the Cities Service Company. Later he was made treasurer of the Empire Gas and Fuel Company and vice president of the Indian Territory Illuminating Oil Company, with offices in Bartlesville, Okla.



DAVID W. HARRIS

In 1927 Mr. Harris went to Shreveport, La., as a representative of Cities Service Company, which had under consideration the acquisition of properties in the Arkansas-Louisiana-Texas area. Through consolidation of six smaller companies the Arkansas Natural Gas Corporation was formed. Mr. Harris is now vice president and general manager of that organization and also of the Louisiana Oil Refining Corporation, each of which has its headquarters in Shreveport.

Mr. Harris is active in civic affairs, his interests along this line including the Shreveport Chamber of Commerce and the Shreveport Rotary Club. He is a Mason, a member of the Shreveport Riding and Polo Club and a director of the Louisiana State Fair Association. By way of recreation he likes polo and horseback riding.

KEN M. LEITCH of Calgary, Alberta, is in eastern Canada arranging for development work on Turner Valley acreage.

DEAN FRANK C. WHITMORE, of Pennsylvania State College, has been elected president-elect of the American Chemical Society.

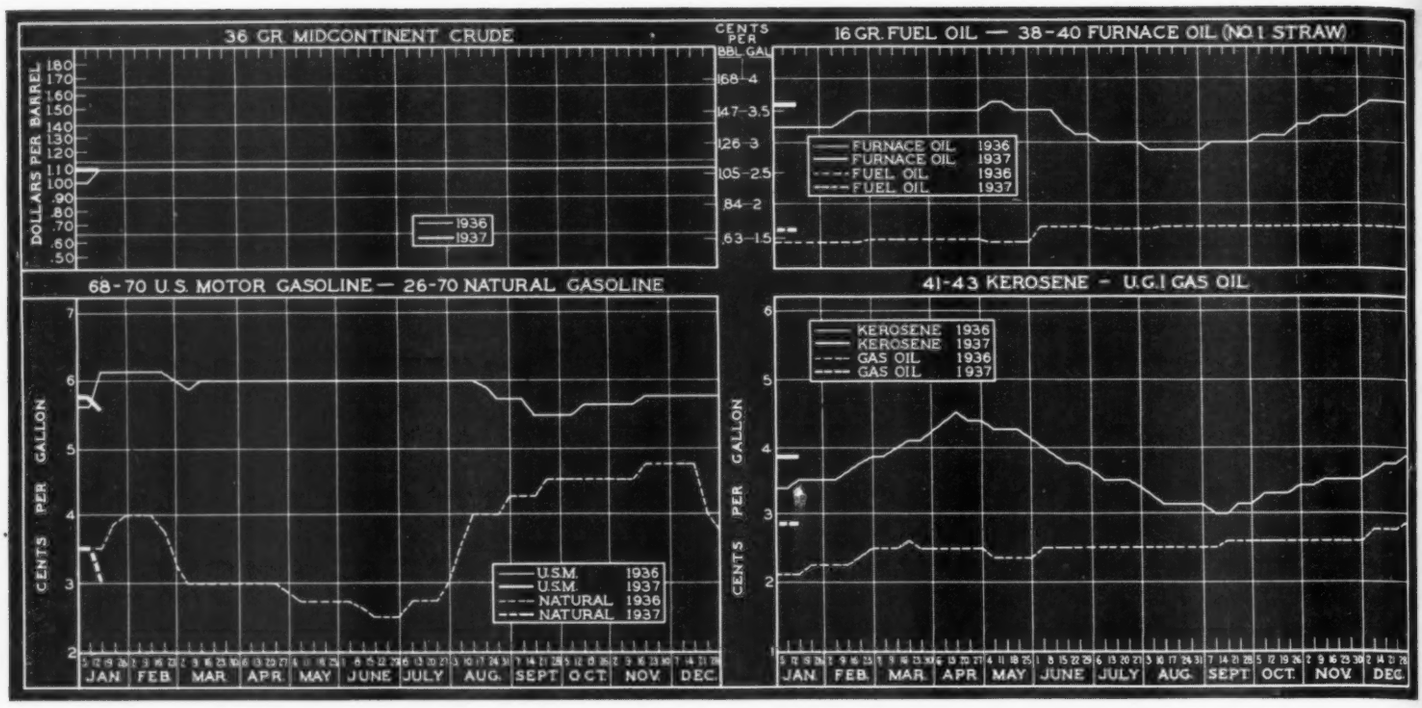
WORTH GRAY has been transferred from the Detroit division to the development department of the Standard Oil Company of Indiana, at Chicago.

ALVA C. BYRNS, formerly in the department of chemistry of the University of California, is now on the research staff of the Richfield Oil Company at Wilmington, Calif.

F. L. CLEMENTS, JR., superintendent of the Humble Pipe Line Company at the Luling district, has been transferred to the Conroe district. He was replaced by I. F. PETTEY, who was transferred from the Corpus Christi district.

W. T. CAMPBELL, formerly secretary and treasurer of the Mission Manufacturing Company, Houston, was elected vice president and general sales manager at the company's annual meeting held at Houston the past week. J. D. BEST, formerly representative of the company in the West Texas district, was made assistant vice president and assistant general sales manager.

R. D. RISSER, for several years division superintendent for the Shell Petroleum Corporation in Coastal Louisiana, with headquarters at Iowa, has been transferred to the East Texas district as division superintendent with headquarters at Kilgore. W. A. ALEXANDER, formerly district superintendent in the White Castle and Iowa fields, has been placed in charge of the Coastal Louisiana division.



Representative Mid-Continent Quotations on Crude Oil and Refined Products. Basis Oklahoma (Group 3)

Natural Gasoline Believed to Have Touched Bottom in Group 3 Area

By T. F. SMILEY

Natural gasoline, which in mid-December bailed out and began a swift drop, was believed to have made a landing in the last week, when the 26-70 grade touched 3 cents in the Group 3 area. This represents a decline from 4¾ cents, the established price for 26-70 when the descent started. Feeling in the trade seemed pretty confident that with this loss of 1¾ cents in four weeks, the naturals had found bottom.

The naturals ran into their difficulty when some material in western Kansas, needing an immediate outlet and finding none, was sold at a concession to effect quick movement. Buying right at that juncture was slow, for nobody wanted to add to taxable inventories unnecessarily at the end of the year. Manufacturers and suppliers with limited storage facilities continued to encounter trouble in getting rid of growing stocks, with the result that prices kept on crumbling.

COMPETING WITH REFINED PRODUCT

At the level now prevailing jobber buying has staged a mild rally, and large refiners are exhibiting renewed interest. The 12-pound material, which almost nobody would take at the quotations which ruled before the break came, now presents direct competition with refinery gasoline, and it was reported to be moving in fair volume at 4⅝ cents, with 4½ cents as the bottom. Jobbers buying 12-pound natural of about 70-octane rating, blend it with 10 per cent or less of 65- to 68-octane house-brand gasoline, thus making an excellent winter motor fuel. The 18-pound is used in the same way, except that a 50-50 blend is employed. As these blends cost less at current prices than the same volume of straight refinery gasoline, some jobbers are reported to be adding substantially to their profits.

Gasoline was softer, with unmistakable weakness marking the third-grade material. The weather in large areas has discouraged use of motor cars. This and the low price of natural are regarded as the chief causes of a laggard gasoline market, with uncertainty over the future of crude prices still something of a depressant. Quotations on all grades were lower than last week. The higher-octane material was reported to be holding its ground better than the third grade, but concessions were made by refiners with heavy stocks.

Helping to keep gasoline from slipping more precipitately was the improved position in East Texas. Inventories in that area were climbing to levels which caused concern recently; but generous buying is reported to have cleaned up most of the unwieldly stocks in the last week or so. There were said still to be a few overlarge accumulations looking for the way out. These were understood to be in the hands of refiners who refused to sell when prices went off slightly a few weeks ago, expecting the market to stiffen shortly.

Kerosene was manifesting no diminution of the strength which has characterized it in recent weeks. Large purchases by important refineries which had not built up stocks adequate to meet the brisk demand are helping to keep the Group 3 kerosene market in vigorous condition. These refineries are said to have found difficulty in getting needed material at 4 cents. Tractor fuel, sister product of kerosene, advanced its position. This material is expected to be in active demand throughout the rest of the winter and well into the spring, with kerosene keeping in step.

BRIGHT STOCKS LOOKING UP

Lubricants, somnolent since last October, came to life in the last week, when the bright stocks went up a half-cent. Most of the steam-refined stocks rose similarly. Neutral prices were unchanged, but there was a fair movement and a feeling that the group might do better soon.

Burning oils were firm, with the prime-white distillate and No. 1 straw able to command slightly higher prices. Heavy fuels were firm. According to reports the demand has not been affected appreciably by factory shutdowns caused by labor troubles. Although the furnace oils did not seem to be in such insistent demand as a few weeks ago, the opinion was expressed that a little rough winter weather would create an extremely tight market. Wax was strong at unchanged prices.

Refined Oil Market Barometer

Seasonal influences are observable in various divisions of the market, with uncertainty over the future of crude prices still an unsettling factor. Gasoline consumption holding up well, notwithstanding adverse weather conditions. Agricultural demand injecting fresh strength into kerosene and tractor fuels. Bright stocks up in both eastern and Mid-Continent areas.

MID-CONTINENT. Gasoline softer. Bright stocks up. Kerosene strong. Naturals off.

EAST COAST. Kerosene, light fuels and diesels strong. Gasoline steady.

GULF COAST. Kerosene stronger. Gasoline steady. Fuel oils strong.

CALIFORNIA. Natural gasoline softer. Neutrals firm. Heating oils strong.

PENNSYLVANIA. Bright stocks, cylinder oils up. Neutrals tight. Kerosene strong.

CHICAGO. Gasoline easier. Kerosene and high-grade heating oils strong.

Kerosene, Light Fuels and Diesel Oils Hit Higher Ground on East Coast

By H. STANLEY NORMAN

NEW YORK, Jan. 12.—Kerosene, light fuel oils and diesel oil surged into higher market ground in the last week along the Gulf Coast and the North and Middle Atlantic Coast despite relatively moderate winter temperatures in most of the territory.

Although there has been no severe winter weather so far, the fuel-oil market is decidedly bullish and extremely sensitive to influences. Kerosene tankcar prices of 5¾ cents a gallon posted the middle of last week are expected to go forward to 6 cents in a short time, and even veteran market observers are unwilling to predict the top for February.

Demanding consideration, however, observers point out, is the existing uncertainty in crude-oil markets. Refiners on the Gulf Coast are holding supplies firmly, apparently confident that the top has not been reached. They are unwilling to shade present increased prices, feeling that at least another half cent a gallon probably would follow a general crude advance. With stocks in relatively secure position, the tendency among suppliers is to hold rather than push their material on the market. The light fuels ranging from No. 2 to No. 4 grade were raised a quarter cent last week, following action in that direction at the close of December by Standard Oil Co. of New Jersey.

Socony-Vacuum's subsidiary in the North Atlantic district, Standard Oil Co. of New York, took leadership in advancing tank-wagon fuel-oil prices commensurate with the tankcar advance. Other marketers followed in both tankcar and retail movements.

Standard of New York increased No. 1 heating oil (kerosene) to 7¾ cents a gallon on tank-wagon deliveries, boosted No. 2 and No. 3 oil to 7 cents and No. 4 to 6¾ cents.

Many of last summer's fuel-oil contracts were either entered or voluntarily reduced by the suppliers to 6¾ cents a gallon for Nos. 2 and 3 heating oils, or a quarter cent below the present spot market.

FURTHER ADVANCES ANNOUNCED

Standard of New Jersey joined January 7 in advancing kerosene and No. 1 fuel oil to 5¾ cents a gallon, f.o.b. tankcar terminals. The margin of one-eighth of a cent a gallon for barge deliveries has been reinstated on the No. 1 and No. 2 fuels by Standard of New Jersey. The No. 1 grade was the only item in the heating-oil list which was not raised the last day of December by Standard of New Jersey, but the company had posted an advance of a quarter cent on this material a few days earlier.

Diesel fuel oil prices were advanced at North Atlantic, Middle Atlantic and Gulf Coast harbors by Standard of New Jersey and affiliates on January 8. The advance was 20 cents a barrel at North and Middle Atlantic points and 15 cents at Baton Rouge. The New York harbor price is now $1.85 a barrel while $1.65 prevails at New Orleans and Baton Rouge.

The increase also applied to top contract business with $2.20 a barrel asked at Atlantic Coast ports and $1.85 along the Gulf Coast. Fuel-oil tank-wagon prices in the Philadelphia territory were advanced a half cent a gallon by Atlantic Refining Co. on January 8, meeting the trends launched in the New York and New Jersey district by competitive concerns. The strength displayed by light fuel oils originates from a combination of conditions, but material in this classification has been extremely active in the Gulf Coast for the past three weeks.

One cargo of No. 2 fuel oil for coastwise movement in January was purchased on the Gulf Coast at 4 cents a gallon, f.o.b. and a cargo of 30 plus translucent gas oil for prompt lifting to a European customer brought 4 cents. Other export buyers were reported inquiring in the Gulf Coast for supplies of gas oil; but without material pressing for movement, it was difficult to learn whether the demand was real or whether purchasers were merely testing the market. Kerosene appeared strong at 5 cents and while some reports were abroad that 4⅞ cents might purchase as much as a cargo of 41-43 water-white material, trade observers denied knowledge of its existence.

Contributing immeasurably to the strong North and Middle Atlantic market on kerosene and light fuel oils are the prevailing tanker rates. The chartering market continues firm. Heavy oil cargoes are quoted by tanker owners at 40 cents a barrel and approximately 36 cents for the lighter oils. Clean vessels for gasoline, kerosene and light fuel oils are offered at 39, 40 and 41 cents for the respective products. Clean tonnage is unchanged over rates prevailing in mid-December while those for heavy oils are up 3 to 5 cents.

Markets in the Pennsylvania refining district probably lack the snap existing along most of the Atlantic seaboard, but to say they are inactive would be a gross misstatement. Moderate seasonal temperatures for the past three weeks have hampered movement of kerosene and light fuel oils in the Pennsylvania refining territory, but prices are holding firm and are leaning to some extent on the stronger market on the seaboard. Cylinder stocks are holding firm at the recently advanced prices. Neutrals are still receiving substantial call against contracts, and only a few odd car lots were available in scattered spots.

Refiners in the Pennsylvania Grade district are looking for a strong spring market for bright stocks. Inventories are reported in better condition, and demand is expected to be considerably above that of 1935 and 1936.

In view of the higher prices posted late in December for Pennsylvania crude, advances in the seasonal lubricating items would not be surprising to the trade, particularly considering the favorable stock positions.

There had been no reported change in cylinder stocks since the crude advance, but it is possible the increase on that item just before crude offerings were raised will carry the higher cost to refiners.

LITTLE CHANGE IN GASOLINE

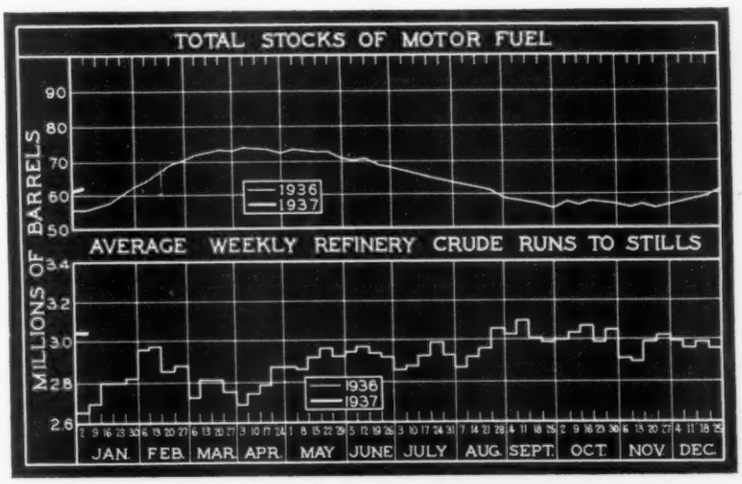
Gasoline was unchanged last week in most quarters. A half-cent was sliced from the dealer tank-wagon price in Wheeling, W. Va., on Standard of New Jersey's house-brand product, bringing the quotation down to 10 cents a gallon. The company has completed transition of its stations to a dealer basis at Charleston, Columbia and Spartansburg, S. C., at Richmond and Petersburg, Va., and is no longer involved in retail distribution at those points.

There was no change in tankcar, tank-wagon or retail gasoline prices in the New York territory. Volume of movement remains satisfactory and despite rain and foggy, moderate temperatures have maintained motoring at a maximum for the season.

The wax market entered 1937 with prices firm and quiet. Marketers expect improvement in the demand shortly and are making no particular effort to sell at present quotations. Scale wax is held by most suppliers at 2.5 cents a pound. The same quiet unchanged condition in the wax market prevails in the Pennsylvania refining district, a natural sequence of the inactivity in New York harbor territory.

A. P. I. Weekly Refinery Statistics

Refinery figures for week ending January 9, 1937, not available



RETAIL OIL MARKETS

Tank-wagon and filling station prices on gasoline and kerosene furnished by the larger marketing firms

Prices as of January 12, 1937

Taxes

The gasoline quotations given in the following tables include the 1-cent federal tax, as well as state, county and city taxes. The gasoline is the regular or standard grade. In most areas a third grade and a premium grade are also available.

Discounts

Under the standard form of commercial consumer contract which went into effect March 1, 1934, save in California, Oregon, Washington, Arizona and Nevada, a discount of 1 cent a gallon off tank-wagon or 3 cents a gallon off retail prices is permitted for purchases between 4,000 and 10,000 gallons per month, or 4 cents a gallon off retail prices for purchases in lots of more than 10,000 gallons a month. The minimum delivery is 25 gallons.

Standard Oil Co. (Indiana)

	Gasoline Tank wag.	Gasoline Dlr.	Inc. tax	Kero. tank-wag.
Chicago, Ill.	15.7	13.7	4.0	9.5
Decatur	15.7	14.2	4.0	9.5
Joliet	15.7	14.2	4.0	9.5
Peoria	15.7	14.2	4.0	9.5
Quincy	15.5	14.0	4.0	9.3
Davenport, Ia.	15.7	14.2	4.0	9.5
Des Moines	15.5	14.0	4.0	9.3
Mason City	15.9	14.4	4.0	9.7
Sioux City	15.7	14.2	4.0	9.5
Duluth, Minn.	16.5	15.0	4.0	10.3
Mankato	16.1	14.6	4.0	9.9
Twin Cities	16.1	14.6	4.0	9.9
La Crosse, Wis.	17.1	15.6	5.0	9.9
Green Bay	17.4	15.9	5.0	10.2
Milwaukee	17.0	15.5	5.0	9.8
Detroit, Mich.	14.5	13.0	4.0	9.2
Grand Rapids	16.2	14.7	4.0	10.3
Saginaw	16.0	14.5	4.0	10.1
Evansville, Ind.	17.2	15.7	5.0	†10.0
Indianapolis	17.4	15.9	5.0	†9.0
South Bend	17.6	16.1	5.0	†9.0
Fargo, N. Dak.	17.1	15.6	4.0	10.9
Minot	18.3	16.8	4.0	12.1
Huron, S. Dak.	17.5	16.1	5.0	10.3
Kans. City, Mo.*	15.1	13.6	4.0	8.3
St. Louis*	15.4	13.9	4.0	9.2
St. Joseph*	15.1	13.6	4.0	8.9
Wichita, Kans.	14.6	13.1	4.0	8.3

*State tax 2 cents, 1-cent city tax and 1-cent federal tax. †Does not include 4-cent state tax.

(Exclusive of state general sales taxes, except Indiana and South Dakota.)

Discounts to commercial consumers: On purchases per month off tank-wagon prices: 1,000 gallons or more, 1.5 cents off; minimum delivery 25 gallons.

Stanolex Fuel Oil in Chicago

Effective Dec. 7, 1936, f.o.b. Chicago tank-wagon prices: Range oil, 1-99 gallons, 8.8 cents; 100-149 gallons, 7.8 cents; 150 gallons and over, 7.3 cents. Stanolex No. 1, 1-99 gallons, 8.8 cents; 100-149 gallons, 7.8 cents; 150 gallons and over, 7.0 cents. Stanolex furnace oil, 1-149 gallons, 7.8 cents; 150 gallons and over, 7.0 cents. Stanolex A, 1-399 gallons, 5.75 cents; 400 gallons and over, 4.75 cents. Stanolex B, 1-799 gallons, 5.75 cents; 800 gallons and over, 4.75 cents.

Atlantic Coast District

STANDARD OIL CO. OF NEW JERSEY

	Gasoline Tank wag.	Gasoline Serv. sta.	Inc. tax	Kero. tank-wag.
Atl'tic City, N.J.	12.5	....	4.0	8.0
Newark	12.5	....	4.0	8.0
Annapolis, Md.	14.6	....	5.0	10.0
Baltimore	14.0	....	5.0	9.0
Cumberland	16.6	....	5.0	10.6
Wash'g'n, D.C.	12.0	15.5	3.0	9.0
Danville, Va.	17.2	....	6.0	12.9
Norfolk	16.0	....	6.0	11.3
Petersburg	16.3	....	6.0	11.7
Richmond	16.3	....	6.0	11.7
Roanoke	17.5	....	6.0	13.9
Charles'n, W.Va.	15.8	....	5.0	13.6
Parkersburg	15.1	....	5.0	11.2
Wheeling	15.0	....	5.0	12.2
Charlotte, N. C.	18.4	....	7.0	13.6
Hickory	18.9	....	7.0	13.0
Mt. Airy	18.7	....	7.0	12.8
Raleigh	18.0	....	7.0	12.1
Salisbury	18.5	....	7.0	12.7
Charleston, S. C.	17.0	....	7.0	11.1
Columbia	18.0	....	7.0	12.1
Spartansburg	18.7	....	7.0	12.9

Tank-wagon gasoline refers to dealer instead of retail price.

Price basis to commercial consumers, effective Nov. 2, 1936: On deliveries of 500 gallons or more by hose connection, consumer tankcar price plus .5 cent; less than 500 gallons, plus .75 cent, not taking deliveries by hose connection, plus 1 cent.

Above schedule does not apply to North and South Carolina, and the greater portions of Virginia and West Virginia where the following is in effect: Up to 35,999 gallons per year, 2.5 cents over tankcar price; 36,000 to 119,999 gallons, 2.0 cents; 120,000 to 239,999 gallons, 1.5 cents; 240,000 to 479,999 gallons, 1.0 cent; over 480,000 gallons, .5 cent. Discount for kerosene, 1 cent off tank-wagon price for 25 gallons or more under contract (contract not necessary in Baltimore) except in New Jersey, where no discount (if necessary) is given.

Southern District

STANDARD OIL CO. OF KENTUCKY

	Gasoline Tank wag.	Gasoline Net dlr.	Inc. tax	Kero tank-wag.
Atlanta, Ga.	21.5	18.5	7.0	*14.5
Augusta	20.5	17.5	7.0	*14.0
Macon	21.0	18.0	7.0	*14.5
Savannah	19.5	16.5	7.0	*13.0
Birm'ham, Ala.	22.0	19.0	8.0	13.0
Mobile	20.0	17.0	9.0	12.0
Montgomery	23.0	20.0	9.0	14.0
Jackson, Miss.	21.0	18.0	7.0	*13.0
Vicksburg	20.5	17.5	7.0	*13.0
Jacksonville, Fla.	20.0	17.0	8.0	12.0
Miami	20.0	17.0	8.0	12.5
Pensacola	22.5	19.5	9.0	12.5
Tampa	21.0	18.0	8.0	12.0
Lexington, Ky.	19.0	16.0	6.0	11.0
Covington	18.5	15.5	6.0	11.0
Louisville	19.0	16.0	6.0	10.0
Paducah	19.0	16.0	6.0	10.0

Price basis to tank-wagon consumers: Effective January 4, 1937, 3 cents per gallon below tank-wagon price. Kerosene prices in all states subject to 2 cents discount except in Kentucky where prices are net.

*Includes 1 cent state tax. Montgomery, Ala., has a county tax of 1 cent per gallon, and a city tax of 1 cent per gallon on gasoline, in addition to state tax; and 1 cent per gallon on kerosene. Mobile, Ala., has a city gasoline tax of 2 cents per gallon; Birmingham, Ala., has a city gasoline tax of 1 cent per gallon. Pensacola, and Tampa, Fla., have a city gasoline tax of 1 cent.

Rocky Mountain District

CONTINENTAL OIL CO.

	Gasoline Dealer	Gasoline Serv. sta.	Inc. tax	Kero. tank-wag.
Denver, Colo.	17.0	....	5.0	11.0
Grand Junction	19.5	....	5.0	15.0
Pueblo	17.0	....	5.0	10.0
Casper, Wyo.	17.5	....	5.0	11.5
Cheyenne	17.5	....	5.0	13.0
Butte, Mont.	19.0	....	6.0	14.5
Billings	20.5	....	6.0	14.5
Helena	20.5	....	6.0	14.5
Great Falls	20.5	....	6.0	14.5
Salt Lake, Utah.	19.0	....	5.0	16.0
Twin Falls, Ida.	21.0	....	6.0	18.0
Boise	20.5	....	6.0	18.0
Aibu'que, N. M.	17.0	....	6.5	13.0

*Includes one-half cent city tax.

Discount to dealers with or without contract in Continental territory: Undivided dealer discount off service station price 4 cents except in Montana where a discount of 2 cents off tank-wagon price is allowed; divided dealer accounts 3½ cents.

Nebraska

STANDARD OIL CO. OF NEBRASKA

	Gasoline Tank wag.	Gasoline Dlr.	Inc. tax	Kero. tank-wag.
Omaha	18.1	16.6	6.0	9.8
McCook	18.8	17.3	6.0	10.5
Norfolk	18.5	17.0	6.0	10.2
North Platte	18.9	17.4	6.0	10.6
Scotts Bluff	19.6	18.1	6.0	10.3

Discounts to commercial consumers for tank-wagon deliveries covered only by standard commercial consumers contract, effective Jan. 1, 1935.

Pacific Coast Territory

STANDARD OIL CO OF CALIFORNIA

	Gasoline Tank wag.	Gasoline Serv. sta.	Inc. tax	Kero. tank-wag.
San Francisco	17.0	18.0	4.0	11.5
Los Angeles	16.5	17.5	4.0	9.0
Fresno, Calif.	17.5	18.5	4.0	11.0
Phoenix, Ariz.	20.5	21.5	6.0	‡16.0
Reno, Nev.	19.5	20.5	5.0	13.0
Portland, Ore.	19.5	20.5	6.0	13.5
Seattle, Wash.	19.5	20.5	6.0	13.5
Tacoma	19.5	20.5	6.0	13.5
Spokane	22.5	23.5	6.0	16.5

Discounts to dealers: On gasoline, off tank-wagon price, to 100 per cent dealers, 3 cents; to split dealers, 2 cents. To commercial consumers: on tank-wagon price: on single deliveries of 40 gallons and over, advance quantity discount extended at time of delivery, 3 cents. Service station schedule applies on single deliveries less than 40 gallons. On kerosene in tankcar, transport truck and trailer delivery, 3 cents off tank-wagon price; plant deliveries to jobbers, 2.5 cents below tank-wagon.

‡Includes 5-cent state tax.

New York and New England

SOCONY-VACUUM OIL CO., INC.

	Gasoline Post. deal.	Gasoline Serv. sta.	Inc. tax	Kero. tank-wag.
Albany, N. Y.	13.0	....	4.0	7.75
*Met. N. Y.:				
Manhtn, Bronx	13.0	....	4.0	7.25
Staten Island	13.25	....	4.0	7.25
Q'ns & Brklyn	13.0	....	4.0	7.25
Buffalo	13.8	....	4.0	8.25
Rochester	13.8	....	4.0	8.25
Syracuse	13.8	....	4.0	8.75
Boston, Mass.	12.8	....	4.0	7.50
Portland, Me.	14.8	....	5.0	7.75
Manch'ter, N. H.	15.3	....	5.0	8.00
Burlington, Vt.	14.9	....	5.0	8.75

*Does not include 2 per cent city sales tax which is calculated on basis of net retail price exclusive of state and federal taxes.

Pennsylvania, Delaware and Part of New England

ATLANTIC REFINING CO.

	Gasoline Tank wag. dlr.	Gasoline Serv. sta.	Inc. tax	Kero. tank-wag.
Philadelphia, Pa.	14.0	17.5	5.0	9.5
Pittsburgh	15.0	18.5	5.0	10.0
Allentown	14.0	....	5.0	10.0
Erie	14.0	....	5.0	10.0
Scranton	14.0	....	5.0	10.0
Altoona	15.0	....	5.0	10.0
Dover, Del.	14.0	....	5.0	10.0
Wilmington	13.0	....	5.0	10.0
Springf'd, Mass.	13.0	....	4.0	7.0
Worcester	13.5	....	4.0	7.5
Hartford, Conn.	12.9	....	4.0	7.0
New Haven	12.8	....	4.0	7.5
Providence, R. I.	11.5	....	3.0	7.0

Price basis to undivided dealers—Dealer tank-wagon less .5 cent per gallon.

Consuming accounts not under contract—when made by tank-wagon in quantities of 50 gallons or over, tank-wagon dealer price.

Commercial accounts under contract—annual consumption 2,500 to 100,000 gallons per year, 1 cent above posted tankcar price; over 100,000 gallons per year, .5 cent above posted tankcar price.

Ohio

STANDARD OIL CO. OF OHIO

	Gasoline Tank wag.	Gasoline Serv. sta.	Inc. tax	Kero tank wag
Ohio points	17.5	(†)	5.0	*13.5

*Includes state tax of 1 cent.

†Following the leasing of service stations to dealers at many points the company no longer posts a statewide service station price.

Central South District

STANDARD OIL CO. OF LOUISIANA

	Gasoline Tank wag.	Gasoline Serv. sta.	Inc. tax	Kero. tank-wag.
N. Orleans, La.	19.5	23.0	*10.0	†11.0
Baton Rouge	17.5	21.0	8.0	11.5
Alexandria	18.0	....	8.0	9.5
Lafayette	18.5	....	8.0	12.5
Lake Charles	18.5	....	8.0	10.0
Shreveport	17.0	....	8.0	10.0
Knoxville, Tenn.	20.5	....	8.0	14.0
Memphis	18.5	....	8.0	9.5
Chattanooga	20.0	....	8.0	11.5
Nashville	19.5	....	8.0	10.0
Bristol	19.25	....	8.0	14.5

*Includes 2-cent parish tax. †Includes 1 cent parish tax and 1 cent state tax.

Price basis to commercial consumers: effective Dec. 21, 1936, deliveries of 50 gallons or more in one delivery, posted consumer tankcar price plus 2 cents per gallon; consumers taking deliveries of less than 50 gallons at one time pay posted consumer tankcar price plus 6 cents per gallon.

Louisiana kerosene prices include 1-cent state tax.

Naphtha

STANDARD OIL CO (INDIANA)

	Tank-wagon*
Oleum spirits	15.7
V.M.&P. naphtha	16.0
Cleaners' naphtha	15.0
Stanisol	15.0

*Prices include 3-cent Illinois tax, but not 1-cent federal tax or 2 per cent retail occupational tax.

Prices f.o.b. Chicago. Each price subject to discount of 1 cent per gallon for 150 gallon lots if covered by contract.

Oklahoma and Arkansas

CONTINENTAL OIL CO.

	Gasoline Dealer	Gasoline Serv. sta.	Inc. tax	Kero. tank-wag.
Muskogee, Ok.	15.0	....	5.0	7.0
Okla. City	15.0	....	5.0	8.0
Tulsa	15.0	....	5.0	8.0
Ft. Smith, Ark.	14.5	....	5.0	8.0
Little Rock	17.0	....	7.5	9.5
Texarkana	14.5	....	5.0	8.5

Texas

	Gasoline Tank wag.	Gasoline Serv. sta.	Inc. tax	Kero. tank-wag
Dallas, Tex.	13.5	17.0	5.0	7.5
Fort Worth	13.5	17.0	5.0	8.5
Houston	14.0	18.0	5.0	7.5
San Antonio	14.0	18.0	5.0	7.5

Tank-wagon price is to contract dealers and commercial consumers, the price to open dealers being .5 cent above tank-wagon price.

Canada*

3 Star Imperial Gasoline
IMPERIAL OIL, LTD.

	Gasoline Tank wag.	Gasoline Serv. sta.	Inc. tax	Kero. tank-wag
Hamilton, Ont.	21.0	....	6.0	17.0
Toronto, Ont.	21.0	23.5	6.0	17.0
Brandon, Man.	29.8	32.8	7.0	22.3
Winnipeg, Man.	28.2	31.2	7.0	20.7
Regina, Sask.	29.5	....	7.0	22.0
Saskatoon, Sask.	32.3	....	7.0	24.8
Edmonton, Alta.	30.5	33.5	7.0	24.3
Calgary, Alta.	28.0	31.0	7.0	21.5
Vancouver, B. C.	22.0	26.0	7.0	23.0
Montreal, Que.	18.5	....	6.0	17.5
St. John, N. B.	24.0	28.0	8.0	18.5
Halifax, N. S.	24.0	28.0	8.0	18.5

*Imperial gallon used in Canada.

Discount to dealers: Divided dealers pay 3 cents per gallon below station price; undivided dealers pay 4 cents per gallon below station price except in cities of Hamilton, Toronto and Montreal when discounts below station prices are one-half cent per gallon less and in Vancouver where discounts are 1 cent per gallon more.

Retail Price Changes

Standard Oil Co. of New Jersey December 31 reduced dealer tank-wagon gasoline .5 cent in Wheeling; converted service stations in the following cities to dealer basis and operation and discontinued posting station prices: Charleston, Columbia, Spartenburg, Richmond and Petersburg.

Standard Oil Co. of Kentucky January 4 advanced tank-wagon kerosene .5 cent in Pensacola and January 5 advanced kerosene .5 cent in Vicksburg. All stations throughout this company's territory have been placed on dealer basis of operation and service station prices are no longer available.

Standard Oil Co. of Louisiana January 1 converted service stations in Memphis to dealer basis of operation and discontinued posting prices.

Standard Oil Co. (Indiana) January 11 advanced tank-wagon gasoline .9 cent in Joliet; January 9 reduced tank-wagon gasoline and kerosene .1 cent in Huron; January 11 advanced tank-wagon kerosene .3 cent in Kansas City.

John R. Lebosquet, of Kansas Oil & Gas Corp., Wichita, Kans., visited friends in Ireland during the holidays. He was expected to leave the Emerald Isle for the return trip to the United States about January 20.

PRICES OF REFINED PRODUCTS

All quotations f.o.b. plant in cars for interstate or export movement except as otherwise noted

Prices as of January 12, 1937

The following quotations are exclusive of the federal excise taxes of 1 cent a gallon on gasoline and 4 cents on lubricating oils.

Refinery Gasoline

OKLAHOMA (Group 3)—

U. S. Motor grades:		
62 octane and below (3d gr.)	.04½	.04¾
63-67 octane	.05	.05⅛
68-70 octane (regular)	.05⅝	.05⅞
60-62 400 grades:		
62 octane and below (3d gr.)	.04½	.04¾
63-67 octane	.05	.05⅛
68-70 octane (regular)	.05⅝	.05⅞
64-66 375	.05	.05⅛
68-70 360	.05¼	.05¼

NORTH TEXAS—

U. S. Motor grades:		
62 octane and below	.04½	.04¾
63-67 octane	.05	.05⅛
68-70 octane (regular)	.05⅝	.05⅞
60-62 400	.04½	.04¾
64-66 375	.05	.05¼

NORTH LOUISIANA (Ark., N. La. and Miss. delivery)—

U. S. Motor grades:		
62 octane and below	.05½	.05¾
63-67 octane	.06¼	.06½
68-70 octane (regular)	.06½	.06¾

ARKANSAS (Ark., N. La., Miss. del.)—

U. S. Motor grades:		
62 octane and below	.05½	.05¾
63-67 octane	.06¼	.06½
68-70 octane (regular)	.06½	.06¾

CHICAGO (Based on Group 3)—

U. S. Motor grades:		
62 octane and below	.04½	.04¾
63-67 octane	.05	.05⅛
68-70 octane (regular)	.05⅝	.05⅞
60-62 400 grades:		
62 octane and below	.04½	.04¾
63-67 octane	.05	.05⅛
68-70 octane (regular)	.05⅝	.05⅞
64-66 375	.04⅞	.05⅛
68-70 360	.05⅛	.05¼

PENNSYLVANIA (inland refineries)—

58-60 U. S. Motor:		
Below 60 octane		.05⅛
60-64.9 octane		.07
65-70 octane		.07⅛
64-66 375		.05⅛
68-70 350		.05⅜

CALIFORNIA (domestic movement)—

54-58 U. S. Motor	.07	.08
58-60 400. 65 octane and higher	.07½	.08½

EAST COAST (domestic)—

U. S. Motor below 60 octane:		
*New York (Bayonne)		.06¼
Baltimore		.06¼
U. S. Motor, 60-64.9 octane:		
*New York (Bayonne)		.06½
Philadelphia	.06½	.06⅝
Boston		.06⅝
Baltimore	.06½	.06⅝
Charleston, S. C.		.06⅝
U. S. Motor, 65 and above:		
*New York (Bayonne)		.06⅝
Philadelphia	.06⅝	.07
Boston		.07
Baltimore	.06⅝	.07
Charleston, S. C.		.07

*All grades of gasoline one-eighth to one-fourth cent less for barge shipments. New York harbor prices are for New York and New England delivery. Prices for New Jersey delivery one-fourth cent lower.

GULF COAST (domestic)—

U. S. Motor grades:		
Below 60 octane	.05¼	.05⅜
60-64.9	.05⅜	.05⅝
65 octane and higher	.05⅞	.06

Naphtha

PENNSYLVANIA (inland refineries)—

50-52 450 (blending)	.05⅛
52-54 450 (blending)	.05⅛
54-56 450 (blending)	.05¼

Natural Gasoline

OKLAHOMA (Group 3)—

Grade 26-70	.03
Grade 18-55	.03⅝
Low vapor pressure grade:	
*14-pound v.p. (max.)	.04⅛ .04¼
*12-pound v.p. (max.)	.04½ .04⅝

*Nominal.

NORTH TEXAS—

Grade 26-70	.02¾
Grade 18-55	.03⅛

CALIFORNIA—

75-85 375-390	.06¾ .07½

NORTH LOUISIANA (Ark., N. La. and Miss. delivery)—

Grade 26-70	.03⅜

Tractor Fuel

OKLAHOMA (Group 3)—

40-42 gr., 315-325 i.b.p., 110 flash, 540-550 e.p.	.03⅞	.04
41-43 gr., 300-350 i.b.p., 110-125 flash, 500-520 e.p.	.04	.04⅛
40-48 gr., 210-230 i.b.p., 480 max. e.p.		.04½

Kerosene

(All kerosene water white)

OKLAHOMA (Group 3)—

41-43	.03⅞	.04
42-44	.04	.04⅛

NORTH TEXAS—

41-43	.03⅞	.04

NORTH LOUISIANA (Ark., N. La. and Miss. delivery)—

41-43	.04⅛	.04¼

ARKANSAS (Ark., N. La., Miss. del.)—

41-43	.04¼	.04½

PENNSYLVANIA (inland refineries)—

45	.05⅛	.05¼
46	.05¼	.05⅜
47	.05⅜	.05½

CHICAGO (Based on Group 3)—

41-43	.03¾	.03⅞
42-44	.03⅞	.04

CALIFORNIA (Pac. Coast market)—

38-40 high burning test	.03¾	.05

NEW YORK (Bayonne, N. J.)—

41-43	.05¾

*GULF COAST (domestic)—

41-43	.05½

*Barge price one-eighth cent lower.

Furnace Oil

OKLAHOMA (Group 3)—

No. 1 prime white, 38-42	.03¾	.04
No. 1 straw, 38-40	.03⅝	.03⅞
No. 2 straw, 32-36	.03⅝	.03¾
No. 2 dark, 32-36	.03½	.03⅝
No. 3, zero to 15, 28-32	.03⅜	.03½
No. 3, 15 and above, 28-32	.02⅞	.03

NORTH TEXAS—

No. 1 prime white, 38-42		.03¾
No. 1 straw, 38-40	.03⅝	.03¾

NORTH LOUISIANA (Ark., N. La. and Miss. delivery)—

No. 2, 32-36	.03⅝	.03½

ARKANSAS (Ark., N. La., Miss. del.)—

No. 2, 32-36		.03¾
No. 3, 28-32		.03½

CHICAGO (Based on Group 3)—

No. 1 prime white, 38-40	.03¾	.03⅞
No. 1 straw, 38-40	.03⅝	.03¾
No. 2 straw, 32-36	.03½	.03¾
No. 2 dark, 32-36	.03⅜	.03⅝
No. 3, zero to 15, 28-32	.03⅜	.03⅝
No. 3, 15 and above, 28-32	.02⅝	.02¾

NEW YORK (Bayonne, N. J.)—

*No. 1	.05¾	
*No. 2	.05	
*No. 4	.04¾	

*Barge deliveries one-eighth to one-fourth cent under above, tankcar price.

Gas Oil and Fuel Oil

(Gas oil per gal., fuel oil per bbl.)

OKLAHOMA (Group 3)—

U.G.I. gas oil	.02¾	.03
No. 4, low cold test, 24-28	.95	1.05
No. 4, 15 and above, 24-28	.80	.85
No. 5, low cold test, 18-22	.75	.80
Below 18 fuel oil, industrial	.70	.75

NORTH TEXAS—

U.G.I. gas oil		.02¾
No. 4, low cold test, 24-28	.95	1.00
No. 5, low cold test, 18-22	.75	.80
Below 18 fuel oil, industrial	.65	.75

NORTH LOUISIANA (Ark., N. La. and Miss. delivery)—

U.G.I. gas oil	.02⅝	.02¾
10-14 fuel oil, industrial	.70	.75

ARKANSAS (Ark., N. La., Miss. del.)—

10-14 fuel oil, industrial	.60	.65

CHICAGO (Based on Group 3)—

U.G.I. gas oil	.02⅝	.02¾
No. 4, low cold test, 24-28	.97½	1.00
No. 4, 15 and above, 24-28	.80	.85
No. 5, low cold test, 18-22	.77½	.80
No. 6, low cold test, 10-16	.65	.67½

PENNSYLVANIA (inland refineries)—

36-40	.04½	.04⅝

CALIFORNIA—

Los Angeles:		
30-34 gas oil, per bbl.	.95	1.15
24 plus diesel	1.00	1.25
24 plus diesel (bunkers)	1.05	1.30
12-16 (bunkers at tidewater)	.85	.95
10-16 (cargo lots)	.75	.95
12-17 (tankcars)	.70	.95
San Joaquin Valley:		
10-18 (tankcars)	.70	.75
San Francisco:		
27 plus diesel		1.35
24 plus diesel (bunkers)		1.35
10-16 (bunkers)		1.00

GULF COAST—

28-30 gas oil	.03½	.03⅝
28-30 diesel (bunkers)		1.65
Bunkers (bulk cargoes)		.95
Bunker C (bunkers)		.95

NEW YORK (Bayonne, N. J.)—

27 plus, gas oil	.04¾
28-30 diesel (lighterage 6¼c per bbl.)	1.85
28-30 diesel (tankcars)	.04¾
*Bunker C (to ocean-going ships in N. Y. harbor)	1.15
Industrial fuel (tankcars)	.04¼

*Lighterage charge 5c bbl. additional.

Bright and Steam-Refined

OKLAHOMA (Group 3)—

Bright Stocks:		
190-200 D, 15-25		.20½
150-160 D, 0-10		.17½
150-160 D, 15-25		.17
150-160 E, 15-25		.16½
100-110 D, 0-10		.16
Steam refined:		
631 green (treated)		.13½
600 dark green (untreated)		.05

PENNSYLVANIA—

Bright Stocks (Pennsylvania grade No. 8 color, 145-50 at 510, 540-550 flash):		
10 pour test	.24½	.25
15 pour test	.23½	.24
20 pour test	.22½	.23
25 pour test	.21½	.22
Steam refined:		
600	.14	.14½
650	.15½	.16
600 Pennsylvania flash	.16½	.17
630 flash	.17½	.18
600 Warren E filtered	.17	.17½

Neutral Oil

(Vis. at 100° F. except Pennsylvania and color N.G.A.)

OKLAHOMA (Group 3)—

Zero to 10 Cold Test:		
150-3		.08½
180-3		.09½
180-4		.09
200-3		.10
200-4		.09½
250-3		.11
250-4		.10½
280-3		.12
280-4		.11½
300-3½		.12½
400-3½		.13½
100-2½ paraffin oil		.05¾
15-20 Cold Test:		
200-3		.09½
200-4		.09
250-3		.10½
250-4		.10
280-3		.11½
280-4		.11

GULF COAST—

Pale Oils:		
200-3	.06½	.07
300-3	.07	.07½
500-3½	.08	.08½
750-3½	.08½	.09
1,200-3½	.09¼	.09½
2,000-4	.09½	.10
Red Oils:		
200-5-6	.06¾	.07
300-5-6	.07	.07½
500-5-6	.08	.08½
750	.08½	.09
1,200-5-6	.09	.09½

CALIFORNIA (moving to dom. market)

Pale Oils:		
100-2½-3	.07	.08
200-2½-3	.07	.08
300-2½-3	.07	.08
400-3-4	.09	.11
450-3-4	.09	.11
550-3-4	.09	.11
600-3-4	.09	.11
Red Oils:		
200-4-5	.07	.08
300-5-6	.07	.08
350-5-6	.10½	.11½
400-5-6	.10½	.11½
450-5-6	.10½	.11½
500-5-6	.10½	.11½
600-5-6½	.10½	.11½
700-6½ plus	.10½	.11½
750-6½ plus	.10½	.11½
900-6½ plus	.10½	.11½

PENNSYLVANIA—

150 vis. at 750° F. color, 400-405 flash:		
Zero pour test	.22	.22½
10 pour test	.21	.21½
15 pour test	.20½	.21
25 pour test	.19½	.20
180 vis. at 70° F., 3 color:		
25 pour test	.22	.22½
200 vis. at 70° F., 3 color:		
Zero pour test	.25½	.26
10 pour test	.24½	.25
15 pour test	.24	.24½
25 pour test	.23	.23½

Wax and Petrolatum

(Prices per pound)

OKLAHOMA (Group 3)—

124-126 (a.m.p.) w.c. scale	.02⅝	.02¾

PENNSYLVANIA (inland refineries)—

122-124 (a.m.p.) w.c. scale	.0250	.0255
124-126 (a.m.p.) w.c. scale	.0255	.0260

NEW YORK—

Wax in bags fully refined:		
122-125 (a.m.p.) wax		.0445
125-127 (a.m.p.) wax		.0455
128-130 (a.m.p.) wax		.0480
130-132 (a.m.p.) wax		.0505
133-135 (a.m.p.) wax		.0535
135-137 (a.m.p.) wax		.0560
124-126 (a.m.p.) w.s.	.0240	.0250
124-126 (a.m.p.) y.s.	.0240	.0245
Petrolatum in barrels, carload lots:		
Dark green		.01⅞
Amber	.02⅞	.03
Extra amber	.03	.03⅛
Lily white	.06⅝	.06¾
Snow white	.07¾	.07⅞
Cream	.05⅝	.05¾

Export Prices

GASOLINE

GULF COAST—

U. S. Motor		.05¼
60-62 400		.05⅜
61-63 390	.05⅜	.05½
64-66 375		.05⅝

LOS ANGELES—

U. S. Motor grades:		
53-55 octane		.04¾
55-65 octane	.04¾	.05
65-67 octane		.05
67-69 octane		.05¼
Above 69 octane	.05½	.06

KEROSENE

GULF COAST—

41-43 prime white		.04⅜
41-43 water white		.04½
44 water white		.05

LOS ANGELES—

41-43 water white	.04½	.05

LUBRICANTS

(Pennsylvania Grade)

NEW YORK (f.a.s. in bbls.)—

Cylinder Stocks:	
600 Warren E	.22½
600 S.R. unfiltered	.20
650 S.R. unfiltered	.20¾
600 flash S.R.	.22
630 flash S.R.	.24½
Bright Stocks:	
8 color	.29½
6½ plus color in dilution	.28

NEUTRAL OIL

200-3 color	.27½
150-3 color	.24

PARAFFIN WAX

NEW YORK (prices per pound)—

123-125 a.m.p.	.04125
125-127 a.m.p.	.0425
128-130 a.m.p.	.0450
133-135 a.m.p.	.0525
135-137 a.m.p.	.0550
Crude scale:	
124-126 w.s.	.0260 .0270
124-126 y.s.	.0245 .0250

CRUDE OIL PRICES

Oklahoma, Kansas, North Central and East Central Texas

(January 9, 1936)

East Texas*	$1.15
Van, Tex.†	1.02
Talco (Nov. 1, 1936)	.65
Altus and Tipton, Okla.‡	1.08
Other fields (see gravity table).	

*All companies. †Pure Oil Co. ‡Gulf Oil Corp. Talco by Humble Oil & Refining Co.

West Texas

Crane, Upton, Howard, Glasscock and Mitchell counties	$ .80
Winkler County	.85
Lea County, N. Mex.	.85
Pecos County*	.85
Pecos shallow†	.75

*Shell Petroleum Co., Gulf Pipe Line Co., and Humble Oil & Refining Co. †Shell Petroleum Corp.

Note—For Humble, Magnolia and Texas Co.'s West Texas and Lea County prices see gravity table. Above prices are those of other buyers.

Gulf Coast

(January 9, 1936)

Cleveland, Tex.	$1.10
Hardin, Tex.	1.03
Greta, Tex. (Nov. 1, 1936)	.95
Refugio, Tex., heavy (Nov. 1, 1936)	.95
Tomball, Tex.	1.30
Lafitte, La.	1.12
Livingston, Tex.	1.15
Bosco, La. (Jan. 16, 1936)	1.05
Evangeline, La.	1.07
O'Connor (Nov. 1, 1936)	.95
McFaddin (Nov. 1, 1936)	.95
Satsuma (Nov. 1, 1936)	1.15
Heyser, light (Nov. 1, 1936)	1.15
Heyser, heavy (Nov. 1, 1936)	.90
Placedo (Nov. 1, 1936)	.90
Plymouth (Nov. 1, 1936)	
...See gravity table for Gulf Coast pools	
Welsh, La.	.96
Tepatate (La.) (Jan. 4, 1937)	1.12

Rocky Mountain States

(Effective January 9, 1936)

Iles, Colo., light*	$1.06
Iles, Colo., heavy*	1.00
Greybull, Wyo.*	1.25
Torchlight, Wyo.*	1.28
Grass Creek, Wyo., light*†	1.18
Grass Creek, Wyo., heavy (Nov. 4, 1936)*†	.62
Hamilton Dome, Wyo. (Nov. 4, 1936)*	.57
Elk Basin, Wyo., light *†	1.15
Frannie, Wyo., heavy*	.42
Frannie, Wyo., light (Nov. 4, 1936)	.70
Hogback, N. Mex.*	1.21
Pondera, Mont. (Jan. 26, 1936)*	1.05
Salt Creek, Dutton Creek and Midway, Wyo., take Stanolind's Oklahoma prices on a gravity basis.	
Big Muddy, Wyo.†	1.11
Big Muddy, Wyo. (Jan. 4, 1937)‡	1.23
Rock Creek, Wyo. (Nov. 1, 1936)†	1.08½
Artesia, N. Mex. (Jan. 4, 1937)‡	.97
Maljamar, N. Mex. (Jan. 9, 1936)‡.	.80
Fort Collins and Wellington, Colo. (Jan. 9, 1936)‡	See Note
Florence, Colo.	.98
Lance Creek, Wyo.	.85
Lance Creek, Wyo. (Jan. 4, 1937)‡	1.02
Lost Soldier, Wyo. (Sept. 30, 1933)	.85
Hudson, Wyo. (June 2, 1931)	.65
Sunburst, Mont. (June 5, 1936)	1.15
Cat Creek, Mont. (Jan. 4, 1937)‡	1.45
Cut Bank, Mont.	1.35

*Stanolind Oil & Gas Co. †Ohio Oil Co. ‡Continental Oil Co. Cut Bank by Toronto Pipe Line Co.

Middle Western States

OHIO OIL CO.

Lima (Sept. 22, 1936)	$1.15
Illinois (Jan. 9, 1936)	1.23
Princeton, Ind. (Jan. 9, 1936)*	1.23
Midland, Mich. (Sept. 16, 1936)*	1.32
Midland, Mich. (Sept. 23, 1936)†	1.37
West Branch, Mich. (Sept. 16, 1936)	1.14
Muskegon, Mich.	1.00
Eastern Kentucky:	
Big Sandy River (Jan. 9, 1936)	1.30
Kentucky River (Jan. 9, 1936)	1.35
Western Kentucky (Nov. 1, 1936)	1.28

*Posted by Simrall Corp. and Pure Oil Co. and includes Greendale, Porter, Beaverton and Crystal crudes. West Branch, Mich., by Simrall Corp. Eastern Kentucky crude purchased by Ashland Refining Co., Ashland, Ky. †Old Dutch Refining Co.

Southwest Texas

(January 9, 1936)

Saxet (Nov. 1, 1936)	.95
Mirando (Nov. 1, 1936)	.90
Pettus	1.25
Taft (Nov. 1, 1936)	.95
Salt Flat*	.97
Salt Flat‡	.97
Darst Creek*	.97
Darst Creek†	.97
Luling	.90
Lytton Springs	1.00
Duval County	.85
Flour Bluff (Nov. 1, 1936).See gravity table	

*Humble Oil & Refining Co. †Magnolia Petroleum Co., Gulf Pipe Line Co. and Texas Co. ‡Shell Petroleum Corp. Saxet posted by Humble and Texas; Mirando by Humble and Magnolia; Pettus by Humble; Salt Flat by Humble; Luling and Lytton Springs by Magnolia; Duval by Texas Co.

North Louisiana and Arkansas

Smackover, all grades (Jan. 10, 1936)*	$.75
Smackover, all grades (Jan. 9, 1936)†	.80
Tullos and Urania (Jan. 10, 1936)	.97
Nevada, Ark. (Jan. 10, 1936)	.65
El Dorado East field (Jan. 16, 1936)	.75
Converse, Holly, Pleasant Hill and Zwolle (Jan. 10, 1936)*	1.10
Lisbon, Ark. (Jan. 10, 1936)*	1.10
Elm Grove, La. (Jan. 10, 1936)	.80

*Standard Oil Co. of Louisiana, Gulf Refining Co., Louisiana Oil Refining Co., Texas Co. (effective January 14) and Magnolia Petroleum Co. (effective January 16). Urania by H. L. Hunt Co. and Louisiana Oil Refining Co. Nevada by Standard of Louisiana, El Dorado East field by Magnolia Petroleum Co. Phillips Petroleum Co. (effective January 17), posts 75 cents for all grades in Union and Ouachita counties, Arkansas.

Eastern States

TIDE WATER PIPE LINE CO.

(Effective Dec. 28, 1936)

Bradford, Pa.	$2.57
Allegany, N. Y.	2.57

SOUTH PENN OIL CO.

(Effective Dec. 28, 1936)

Pennsylvania Grade Oil in National Transit Lines (Bradford field)	2.57
Pennsylvania Grade Oil in Southwest Pennsylvania Lines	2.32
Pennsylvania Grade Oil in Eureka Pipe Line lines	2.27
Pennsylvania Grade Oil in Buckeye Pipe Line lines	2.13
Corning Grade Oil in Buckeye Pipe Line Co.'s lines (Sept. 18, 1936)	1.33

PENNZOIL CO.

(Effective Dec. 28, 1936)

Pennsylvania Grade Oil in National Transit Lines:	
Group A	2.57
Includes Cochran, Franklin, Hamilton and Doolittle districts.	
Group B	2.56
Includes Tidioute district.	
Group C	2.55
Includes Turkey and Tidioute districts.	
Group D	2.54
Includes Bear Creek and Porkey districts.	
Group E	2.51
Includes Eldeneau, Bull Creek, Rough Run, Carbon, Dipner, Bredlin, McJunkin, Jameson, Kenerdell, Emlenton, Tiona, Lacey and Kinzua districts.	
Price depends on lengths of pipe line haul to plant at Oil City.	

PURE OIL CO.

(Effective Dec. 28, 1936)

Cabin Creek, W. Va.	2.37
Bradford Hollow, W. Va.	2.37
Kelly Creek, W. Va.	2.37

Canada

Ontario (Sept. 9, 1933):*	
Petrolia	$2.10
Oil Springs	2.17
Turner Valley, Alberta province (Dec. 16, 1936):†	
Clear naphtha	$2.60
Discolored naphtha, 65 gravity and higher	2.36
Discolored naphtha and crude oil, 40-40.9 gravity	1.55
Increasing 3 cents for each degree of gravity with top price for 64-64.9 gravity	2.27

These prices delivered field tankage.
*Imperial Oil, Ltd.
†Imperial Oil, Ltd., and Regal Oil & Refining Co. On crude oil alone British American Oil Co. posted above prices on December 9, 1936.

Mexico

Panuco*	$0.96

*F.o.b. ship, based on November transactions and exclusive of production and export taxes and bar dues.

Crude Prices by Gravities

Gravity—	Oklahoma, Kansas and Salt Creek, Wyo.	Central and North Texas	East Central Texas	North Louisiana, Arkansas	Gray County, Texas	Carson and Hutchinson Counties, Texas	Conroe, Texas	West Texas and Lea County, New Mexico	Gulf Coast, Texas and Louisiana	Flour Bluff, Turtle Bay Anahuac Dickinson, Texas	Iowa and Cameron Meadows, Texas
Below 20	....	....	....	....	....	....	....	....	$.92	....	$.82
20-20.9	....	....	....	....	....	....	....	....	.94	....	.84
21-21.9	....	....	....	....	....	....	....	....	.96	....	.86
22-22.9	....	....	....	....	....	....	....	....	.98	....	.88
23-23.9	....	....	....	....	....	....	....	....	1.00	....	.90
24-24.9	....	....	....	....	....	....	....	....	1.02	....	.92
Below 25	$.86	....	....	$.78	....	....	....	....	....	....	....
25-25.9	.88	....	....	.80	....	....	....	....	1.04	....	.94
26-26.9	.90	....	....	.82	....	....	....	....	1.06	....	.96
27-27.9	.92	....	....	.84	....	....	....	....	1.08	....	.98
28-28.9	.94	....	....	.86	....	....	....	....	1.10	....	1.00
Below 29	.94	$.84	$.91	....	....	....	....	$.75	....	....	....
29-29.9	.96	.86	.93	.88	....	....	....	.76	1.12	....	1.02
30-30.9	.98	.88	.95	.90	....	....	....	.78	1.14	$1.04	1.04
31-31.9	1.00	.90	.97	.92	....	....	....	.80	1.16	1.06	1.06
32-32.9	1.02	.92	.99	.94	....	....	....	.82	1.18	1.08	1.08
33-33.9	1.04	.94	1.01	.96	....	....	....	.84	1.20	1.10	1.10
34-34.9	1.06	.96	1.03	.98	....	....	....	.86	1.22	1.12	1.12
Below 35	....	....	....	....	$.86	$.81	....	....	....	....	....
35-35.9	1.08	.98	1.05	1.00	.88	.83	$1.24	.88	1.22	1.14	1.12
36-36.9	1.10	1.00	1.07	1.02	.90	.85	1.26	.90	1.22	1.16	1.12
37-37.9	1.12	1.02	1.09	1.04	.92	.87	1.28	.90	1.22	1.18	1.12
38-38.9	1.14	1.04	1.11	1.06	.94	.89	1.30	.90	1.22	1.20	1.12
39-39.9	1.16	1.06	1.13	1.08	.96	.91	1.32	.90	1.22	1.22	1.12
40 and over	1.18	1.08	1.15	1.10	.98	.93	1.34	.90	1.22	1.24	1.12

STANDARD OIL CO. OF CALIFORNIA AND UNION OIL CO.

Crude oil prices at the well effective June 22, 1936

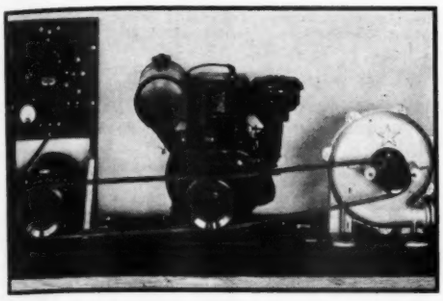
Gravity—	Signal Hill (Long Beach)	Seal Beach	Alamitos Heights	Huntington Beach	Inglewood	Playa del Rey	Olinda-Brea Canyon	Athens-Rosecrans	Dominguez	Elwood Terrace	Torrance	Richfield	Whittier E. Coyote (La Habra)	Montebello	W. Coyote Hills	Santa Fe Springs	Mountain View	Elk Hills Buena Vista Hills Midway-Sunset Lakeview Area	Lost Hills	Conlinga	Wheeler Ridge	Kettleman Hills	Santa Paula*	Oreute*
14-14.9	$.80	$.79	$.74	$.78	$.78	$.80	$.76	....	....	....	$.80	$.76	$.76	$.77	$.78	....	....	$.70	$.70	$.70	....	....	$.70	....
15-15.9	.80	.79	.74	.78	.79	.80	.76	....	....	....	.80	.76	.76	.77	.78	....	....	.70	.70	.70	....	....	.70	....
16-16.9	.80	.79	.74	.78	.79	.80	.76	....	....	....	.80	.76	.76	.77	.78	....	....	.70	.70	.70	....	....	.70	$.70
17-17.9	.80	.79	.74	.78	.81	.80	.76	....	....	....	.80	.76	.76	.77	.78	....	....	.70	.70	.70	....	....	.71	.70
18-18.9	.80	.79	.74	.78	.84	.80	.78	....	....	....	.82	.76	.76	.77	.78	....	....	.70	.70	.70	....	....	.73	.73
19-19.9	.82	.79	.74	.82	.87	.84	.81	....	....	....	.85	.76	.78	.77	.78	....	$.70	.74	.74	.71	$.70	....	.75	.76
20-20.9	.85	.79	.74	.85	.90	.88	.84	....	....	....	.88	.78	.92	.77	.80	....	.70	.78	.78	.72	.70	....	.77	.77
21-21.9	.88	.79	.74	.89	.93	.92	.88	....	....	....	.91	.80	.85	.77	.84	$.78	.73	.82	.82	.74	.70	....	.79	.80
22-22.9	.92	.83	.74	.92	.96	.98	.92	....	....	....	.93	.84	.89	.79	.88	.78	.77	.87	.86	.78	.72	....	.82	.83
23-23.9	.95	.86	.77	.96	.99	1.02	.96	$.84	$.79	....	.96	.88	.93	.82	.92	.78	.80	.92	.90	.82	.76	....	.85	.86
24-24.9	.98	.91	.80	1.00	1.02	1.06	.99	.88	.81	....	.99	.91	.96	.85	.96	.82	.84	.97	.94	.86	.79	....	.87	.88
25-25.9	1.03	.95	.82	1.03	1.05	1.11	1.03	.93	.83	....	1.02	.95	....	.89	.99	.86	.88	1.01	.98	.90	.83	....	.90	.91
26-26.9	1.06	1.00	.85	1.07	1.09	1.16	1.06	.98	.86	....	1.05	.98	....	.92	1.03	.90	.91	1.06	1.02	....	....	....	.92	.91
27-27.9	1.10	1.05	.88	1.11	1.12	....	1.10	1.03	.88	....	....	1.02	....	.96	1.06	.95	.95	1.10	1.06	....	....	....	.95	....
28-28.9	1.14	1.10	.90	1.14	1.15	....	1.14	1.07	.90	....	....	1.06	....	.99	1.10	.99	.99	1.15	1.10	....	....	....	.97	....
29-29.9	1.17	1.15	.93	1.18	1.18	F.O.B.	1.17	1.12	.93	....	....	1.09	....	1.03	1.14	1.03	1.02	1.20	1.14	....	....	....	.99	....
30-30.9	1.21	1.19	.95	1.22	1.21	our	1.21	1.17	.95	F.O.B.	....	....	....	1.07	1.17	1.08	1.06	1.25	1.18	....	....	....	1.01	....
31-31.9	....	....	....	....	1.24	Pipe	1.24	1.22	.97	Ship	....	....	....	1.11	1.21	1.12	1.09	1.29	....	....	....	....	....	....
32-32.9	....	....	....	....	1.27	Line	1.27	1.27	1.00	....	....	....	....	1.14	1.25	1.16	1.13	1.34	....	....	....	....	....	....
33-33.9	....	....	....	....	....	....	....	1.32	....	$1.28	....	....	....	1.18	1.28	1.20	1.17	1.38	....	....	....	$1.19	....	....
34-34.9	....	....	....	....	....	....	....	1.37	....	1.32	....	....	....	1.22	1.32	1.25	1.20	....	....	....	....	1.23	....	....
35-35.9	....	....	....	....	....	....	....	1.42	....	1.35	....	....	....	1.25	....	1.29	....	....	....	....	....	1.27	....	....
36-36.9	....	....	....	....	....	....	....	1.46	....	1.39	....	....	....	1.29	....	1.33	....	....	....	....	....	1.31	....	....
37-37.9	....	....	....	....	....	....	....	1.51	....	1.43	....	....	....	1.32	....	1.37	....	....	....	....	....	1.35	....	....
38-38.9	....	....	....	....	....	....	....	1.56	....	....	....	....	....	1.36	....	1.42	....	....	....	....	....	1.39	....	....
39-39.9	....	....	....	....	....	....	....	1.61	....	....	....	....	....	1.40	....	....	....	....	....	....	....	1.43	....	....
40-40.9	....	....	....	....	....	....	....	1.66	....	....	....	....	....	1.43	....	....	....	....	....	....	....	....	....	....

Newhall, McKittrick, Kern River, Kern Front and Round Mountain, 70 cents for all grades. *Posted by Union Oil Co. Same company's Brea Canyon schedule stops at $1.14 for 28 degrees and over, and Belridge and Lost Hills schedule stops at $1.32 for 37 degrees and over.

NEW OR IMPROVED EQUIPMENT

Lighting Plant for Drillers Is Run by Air-Cooled Engine

A drillers' electric lighting plant offered by the Harley Sales Co., Tulsa, is powered by a 3-horsepower Wisconsin air-cooled engine. The drop-forged crankshaft runs in large Timken tapered bearings. Ignition is by a high-tension rotary magneto with impulse starter and automatic choke.



The silchrome valves actuate in chrome-nickel inserted seats. The speed is controlled closely by a mechanical governor with variable speed regulator.

The lighting plant consists of a 110-volt, medium-speed, direct-current, compound-wound, 1,000 or 1,500-watt generator. The switchboard is connected to the generator through a BX weather adapter; has on the panel a Cutler-Hammer field rheostat, a volt-meter, two-knife switch and double set of fuses. The unit is driven by two B section V-belts.

For some rigs where gas pressure is low or where oil is used in the forge for dressing tools, a blower is absolutely necessary, so some of the units carry a blower of conventional design. One side of the blower-shaft has an emery wheel for sharpening cold cuts, etc., and the other side carries a V-belt sheave for one B section belt. All of the foundation-bolts for the blower are brazed to a square sheet of steel under the base and when all nuts are loosened they move simultaneously in the 4-inch slots, affording a means to tighten or remove the belts. This method of mounting is also used on the generator.

Bulletins, Booklets and Other Literature for the Trade

A 96-page edition of Data Book No. 125 on Silverstreak silent chain drives of fractional horsepower up to 2,000 horsepower has been completed for free distribution by Link-Belt Co., 519 North Holmes Avenue, Indianapolis, Ind.

The Lincoln Shield-Arc S.A.E. welder is described in a four-page bulletin prepared by the Lincoln Electric Co., Cleveland, Ohio.

A new bulletin, describing all its products in detail, has been issued by the Kibele Manufacturing Co., Dallas, Tex. It covers Kibele tubing-catchers, flowhead packers, pump pistons, and swabs.

A broadside distributed by the Cleveland Tractor Co., Cleveland, Ohio, announces a "new era in crawler tractor design." The streamlined Cletracs are described as "sturdy as a battleship, with new comfort for the operator."

Byron Jackson Deepwell turbine pumps have been made the subject of a strikingly attractive 40-page booklet obtainable from the Byron Jackson Co., Los Angeles, Calif. In addition to pictures showing details of mechanism, interesting photographs of installations are given.

The Oil Well Supply Co., Dallas, Tex., has two new bulletins for distribution, one on the company's No. 612-P (6x12-inch) power-driven slush-pump and the other on its No. 20-P (7¾x20-inch) power-driven slushpump.

Of special interest to users of wire rope is an article, 'Facts About Kinking," in the January issue of the Yellow Strand, published by the Broderick & Bascom Rope Co., St. Louis, Mo.

Dresser Announces Promotions

Changes announced in the personnel of the S. R. Dresser Manufacturing Co., Bradford, Pa., manufacturer of flexible pipe couplings and pipe line repair devices, include the elevation of M. N. Davis from vice president in charge of sales to executive vice president. Mr. Davis continues as secretary. H. P. Boncher, formerly assistant sales manager, is now sales manager. The new assistant general manager is R. E. Reimer, who also is treasurer. H. N. Mallon continues as president and general manager.

New Office Opened in Houston by Natural Gas Equipment

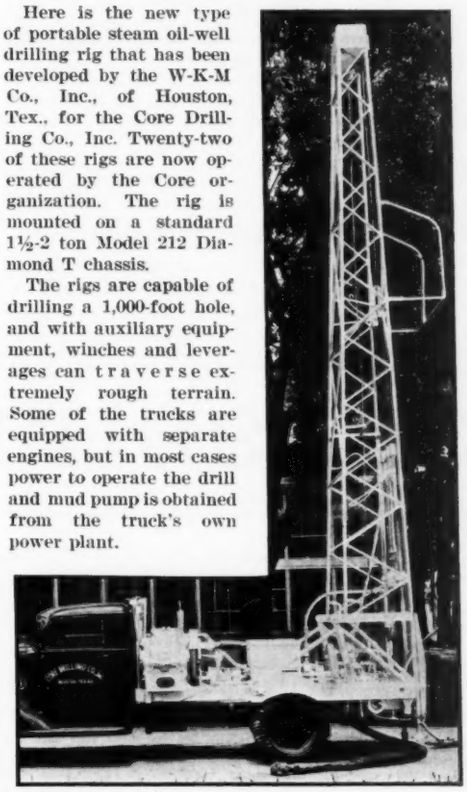
A new office has been opened by the Natural Gas Equipment Co. of Texas in the Sterling Building, Houston, Tex. The company for many years has been sales representative for the Surface Combustion Corp., Toledo, Ohio, and the Webster Engineering Co., Tulsa, as well as for the line of N.G.E.-Wilgus pressure regulators. Sales efforts will be directed particularly at the boiler plants which supply power for drilling and refining operations. In charge of the Houston office will be C. D. Lanzit, field engineer long associated with Natural Gas Equipment, Inc., in its San Francisco and Los Angeles offices. Houston Oil Field Materials Co. will act as distributor for N.G.E.

C. D. LANZIT

New Type of Portable Rig for Oil Well Drilling Developed

Here is the new type of portable steam oil-well drilling rig that has been developed by the W-K-M Co., Inc., of Houston, Tex., for the Core Drilling Co., Inc. Twenty-two of these rigs are now operated by the Core organization. The rig is mounted on a standard 1½-2 ton Model 212 Diamond T chassis.

The rigs are capable of drilling a 1,000-foot hole, and with auxiliary equipment, winches and leverages can traverse extremely rough terrain. Some of the trucks are equipped with separate engines, but in most cases power to operate the drill and mud pump is obtained from the truck's own power plant.



American Chain Alters Name to Include Other Products

American Chain & Cable Co., Inc., is the new name of American Chain Co., Inc., long a manufacturer of chains and since 1924 a producer of wire rope and cable. Among the 137 products of American Chain & Cable Co. are Weed tire chains; welded and weldless chain and attachments; malleable castings; abrasive cutting machines; automotive service station equipment; Page fence, wire and rod products, traffic tape, welding wire; chain hoists, electric hoists and cranes, trolleys; preformed and nonpreformed wire rope; automotive cable controls; wrought-iron bars and shapes; cushion and mattress spring centers; bronze, iron and steel valves; steel pipe fittings; electric steel castings.

The directors recently elected W. B. Lashar chairman of the board; W. T. Morris, president; Wilmont F. Wheeler, executive vice president and treasurer; A. P. Van Schaick, vice president in charge of sales; C. G. Williams, vice president in charge of production; W. M. Wheeler, secretary; Frederick C. Geier, assistant secretary; Stanley Mann, comptroller.

The general executive offices will remain in Bridgeport, Conn., and 230 Park Avenue, New York. District sales offices are located in Boston, New York, Philadelphia, Detroit, Chicago, San Francisco, Pittsburgh, Atlanta, Tulsa, Houston, Denver, Los Angeles and Fort Worth.

I. Frank Brown, Rockefeller Center, New York, is now export representative for Wheatley Bros. Pump & Valve Manufacturers, Tulsa. Mr. Brown recently visited the Mid-Continent area.

Oil Man's Calendar

January

16-24—Detroit, Mich., first International Consumers Petroleum Exposition.

18-19 — Bismark, N. D., Northwest Petroleum Association, North Dakota Division, Patterson Hotel.

21-22—Minneapolis, Minn., Northwest Petroleum Association, Minnesota Division, West Hotel.

25-26—Oklahoma City, Okla., Associated Motor Carriers of Oklahoma, annual convention.

26-28—Sioux Falls, S. D., South Dakota Independent Oil Men's Association. Cataract Hotel.

February, 1937

8-10—Louisville, Ky., Kentucky Petroleum Marketers Association, Brown Hotel.

17-18—Peoria, Ill., Illinois Petroleum Marketers Association, annual convention and marketing exposition, Hotel Pere Marquette.

23-25—Milwaukee, Annual Convention, Wisconsin Petroleum Association.

23-25—Columbus, Ohio, Ohio Petroleum Marketers Association, annual convention and Trade Exposition, Hotel Deshler-Wallick.

23-25—Milwaukee, Wis., Wisconsin Petroleum Association annual convention, Plankinton Hotel.

Memphis, Tenn., Southwest Sales Conference, Natural Gas Department.

24-25—Des Moines, Iowa, Iowa Petroleum Association.

24-26—New York, Association of Highway Officials of North Atlantic States, thirteenth annual convention, Hotel Pennsylvania.

March

1-5—Chicago, American Society for Testing Materials, regional meeting and committee week, Palmer House.

10-11—Indianapolis, Indiana Independent Petroleum Association Spring Convention and Refiners' and Suppliers' Exhibit, Hotel Severin.

12—Oklahoma City, Okla., Interstate Oil Compact Commission meeting.

15-19—Philadelphia, Pa., National Oil Burner & Air Conditioning exposition and convention, Convention Hall, Commercial Museum.

17-19—Los Angeles, Calif., A.A.P.G. annual meeting.

April

7-9—Birmingham, Ala., American Institute of Mining and Metallurgical Engineers, Open Hearth Conference.

8-10—Shreveport, La., Petroleum Industry Electrical Assn.

13—Los Angeles, Calif., American Petroleum Institute, Division of Production, Pacific Coast district, Biltmore Hotel.

19-24—Houston, Tex., Oil Equipment & Engineering Exposition.

15-16—Cleveland, Ohio, 34th semiannual meeting National Petroleum Association, Cleveland Hotel.

28-30—Tulsa, Natural Gasoline Association of America, annual meeting, Hotel Tulsa.

May

6-7—Columbus, Ohio, American Petroleum Institute, Division of Production, Eastern district, Deshler-Wallick Hotel.

10—Kansas City, Mo., Spring meeting Natural Gas Department, American Gas Association.

June

1-3—Colorado Springs, Colo., American Petroleum Institute, mid-year meeting, Broadmoor Hotel.

7—Kansas City, Mo., Oil Field, Gas Well-Refinery Workers of America.

11—Santa Fe, N. M., Interstate Oil Compact Commission meeting.

17-19—Pennsylvania Grade Crude Oil Association, annual meeting, on Great Lakes S.S. "Seeandbee," sailing from Buffalo, N. Y.

CLASSIFIED ADVERTISING

Business Opportunities

GEOLOGIST desires connection on percentage basis plus expenses. Highest credentials. Address Box G-823, The Oil and Gas Journal, 415 Lexington Avenue, New York City.

WANTED — Capital to manufacture and distribute a new tool that is a great aid to Oil production. Tool is patented and thoroughly proven, is being used and recommended by practically all the major oil companies in the United States. This tool has no competition. Need Capital. Address 853 N. St. Francis, Wichita, Kansas.

INDEPENDENT geologist working ahead production North Central Texas controls promising wildcat blocks medium shallow drilling desire contact responsible parties. Box 201, Breckenridge, Texas.

For Sale—Maps

OIL MAPS of Texas. 50c. County maps $1-$1.50. Oil City Map Co., Fort Worth, Texas.

STATE OF TEXAS
1937 REVISED EDITION MAP
New and Enlarged to include parts of New Mexico, Oklahoma, Arkansas and Louisiana. Shows oil and gas fields, etc. Price $1.00. Write for folder on county ownership and oilfield maps.
ZINGERY OIL MAP COMPANY
Fair Building Fort Worth, Tex.

Situations Wanted

PROGRESSIVE young man with 12 years' practical and executive experience in oil fields desires position selling reputable specialties or supplies. Know rotary tools thoroughly. Wide acquaintance major operators and contractors West Texas and New Mexico. Presently employed executive position major company but available immediately. Address Box H-601, The Oil and Gas Journal, Tulsa, Oklahoma.

Experienced sales engineer with successful record, desires connection with company wanting representation in Mid-Continent area. Address Box H-603, The Oil and Gas Journal, Tulsa, Oklahoma.

ACCOUNTANT-BOOKKEEPER: Desires connection with future opportunity. Single. Age 28. Oil company experience, state and federal income taxes. Accounting and law education. Good references. Address Box H-612, The Oil and Gas Journal, Tulsa, Oklahoma.

Addresses Wanted

ANYONE knowing the whereabouts of Ara Gregg please communicate with R. O. Robbins, Sedan, Kansas.

Help Wanted

OPPORTUNITY for experienced Seismologist for tropical work with major oil company. Mail full details education, training and experience, together with photograph, references and salary expected, to Box H-610, The Oil and Gas Journal, Tulsa, Oklahoma.

Incorporations

DELAWARE CHARTERS: Complete incorporating and organizing service $35. Submitted forms, Chas. G. Guyer, Inc., Wilmington, Delaware.

CHARTERS — Delaware best, quickest, cheapest, most liberal. Free forms. Colonial Charter Co., Wilmington, Del.

Financing

CAPITAL SEEKERS—Put your project before 260 Key-Men. Cost trifling. Details free. Amster Leonard, Fox Theater Building, Detroit, Michigan.

Royalties—Production

ANDREW J. BARRETT
The Philtower
Tulsa, Oklahoma.

PRODUCING OIL ROYALTIES
for dealers
H. P. BOWEN
842 Kennedy Bldg., Tulsa, Okla.

F. A. SANSOME
Maintains a Complete Trading Organization for Brokers, Banks and Dealers
In
Oil Royalties
522 Fifth Avenue, New York, N. Y.

PRODUCING OIL ROYALTIES
15 years of experience
L. H. WITWER
214 Kennedy Bldg., Tulsa, Okla.

Royalties—Production

Brokers—Salesmen

Sell in the most active area in the United States — The Permian Basin of West Texas and Southeastern New Mexico. From the standpoint of royalty investors this area has much to offer. Can supply you with choice non-producing royalties located on geophysical highs. Also drilling blocks, close in acreage to production, or wildcat leases. I maintain my own field men who cover this area for me. All offerings meet the requirements of the Securities and Exchange Commission. Inquiries invited.

B. D. BUCKLEY
Paul Brown Bldg., St. Louis, Mo.

ROYALTIES PURCHASING TRUST LTD., Moorgate Hall, Moorgate, London, E. C. 2., England, are buyers of producing oil royalties.

HIGH GRADE producing oil and gas royalties offered to dealers. Billie Smallwood, P. O. Box 2261, Tulsa, Oklahoma.

NEW MEXICO Oil and Gas Leases and royalties. Send 50 cents in stamps for new State Oil Map of New Mexico. Roy G. Barton, Clovis, New Mexico.

HUGH McCLELLAN
Union Natl. Bank Bldg., Wichita, Kans.
Attractive Kansas Royalties for Dealers.

WANT PARTY to drill oil or gas well for us on PERMITS up to 4,000 acres, percentage basis or may sell oil rights in Baker-Glendive Anticline. Drilling test October 1936 PROVES Anticline Largest oil field in U. S. J. P. Blichfeldt, Mgr., 253 Plymouth Bldg., Minneapolis, Minnesota.

Manufacturers and Agents

Reputable Tulsa concern selling oil producing and pipe line companies desires additional lines for selling and distribution in Okla., Kans. and Tex. Address Box H-611, The Oil and Gas Journal, Tulsa, Okla.

CLASSIFIED DISPLAY RATES

Classified Display is set with a border and may be used in one or two column sizes.

1 Inch	*1 time*	*$5.00*	
1 Inch	*13 times*	*4.50*	*per inch*
1 Inch	*26 times*	*4.00*	*per inch*
1 Inch	*52 times*	*3.50*	*per inch*

This space may be contracted for over a period of one year from the date of the first insertion and is PAYABLE IN ADVANCE, MONTHLY.

CLASSIFIED

Classified advertising rates: First insertion, 35 cents a line; each additional insertion, 25 cents a line, PAYABLE IN ADVANCE. Six words usually make a line. Count as a word each one-letter word and each group of figures. White space computed at regular line rate. Allow two extra lines for blind ads. Ads of less than three lines not accepted. No formal acknowledgement is made, and proofs cannot be shown in advance of publication.

	1 time	2 times	3 times	4 times		1 time	2 times	3 times	4 times
3 Lines	*$1.05*	*$1.80*	*$2.55*	*$3.30*	*7 Lines*	*$2.45*	*$4.20*	*$5.95*	*$7.70*
4 Lines	*1.40*	*2.40*	*3.40*	*4.40*	*8 Lines*	*2.80*	*4.80*	*6.80*	*8.80*
5 Lines	*1.75*	*3.00*	*4.25*	*5.50*	*9 Lines*	*3.15*	*5.40*	*7.65*	*9.90*
6 Lines	*2.10*	*3.60*	*5.10*	*6.60*	*10 Lines*	*3.50*	*6.00*	*8.50*	*11.00*

We reserve the right to withhold all advertising of questionable character. To avoid delay be sure to send remittance with copy. We will set your ad in the smallest amount of space possible and refund all overpayments. One-time insertions will not be run until fully paid. Forms close MONDAY NOON before each issue date.

THE OIL AND GAS JOURNAL
Tulsa, Oklahoma

CLASSIFIED ADVERTISING

For Sale—Equipment

GASOLINE PLANT EQUIPMENT

We are now dismantling two gasoline plants containing good used gasoline plant equipment:

Type 2500 complete Southwestern distillation unit
2—80 H.P. Collins portable water tube boilers
2—100 H.P. Reeves gas engines
2—225 H.P. Watts-Miller twin gas driven compressors
1—80 H.P. Bessemer gas driven compressor
2—80 H.P. Clark gas driven compressors
10—Sectional corrugated structural steel iron buildings from size 8′ x 8′ x 8′ to 30′ x 60′ x 22′.

Pumps, tanks, absorbers, Braun heat exchangers, Wescott meters, pipe, valves, fittings, etc. etc. etc.

Phone— Wire— Write—

BROWN-STRAUSS CORPORATION

Main Office—1446 Guinotte—Kansas City, Mo.
Branches:
Arkansas City, Kansas Sapulpa, Oklahoma Pyote, Texas

For Sale—Equipment

Steel Storage Tanks

50—Practically new 80,000-bbl. steel roof tanks, latest type.
125—500,000-bbl. storage tanks at great saving. Prices quoted on request for tanks standing, cut down, or reerected on your grade. Have all other sizes available. All tanks strictly guaranteed.

All kinds refinery equipment, valves, fittings, machinery, pumps and pump repair parts.
Wire—Phone—Write—W. C. Berry

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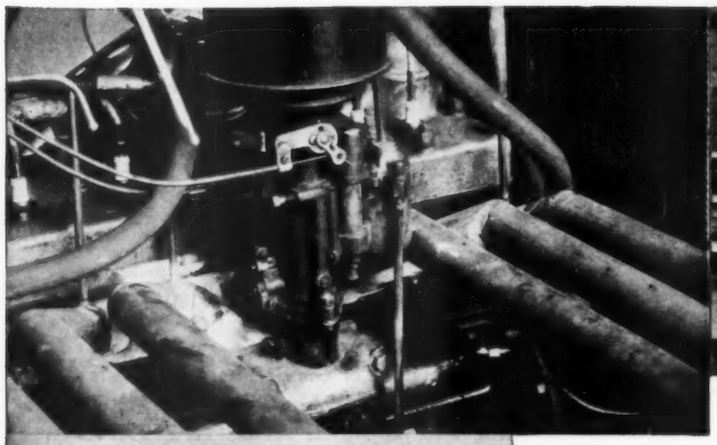

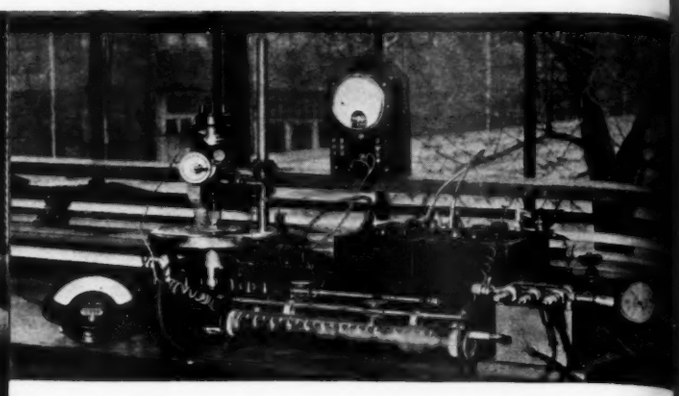

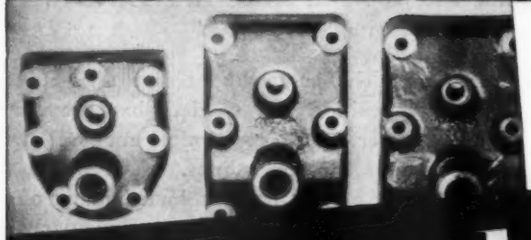

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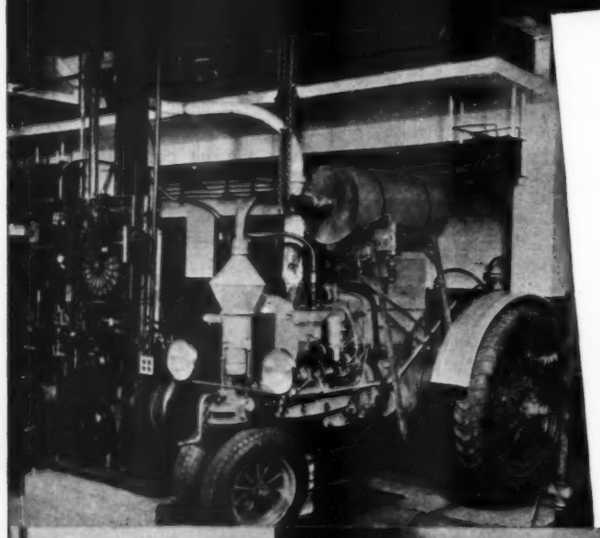

WITH a growing realization that the automobile and its fuel constitute an inseparable research unit, technical departments in the oil and automotive industries are exchanging ideas, data and facilities in promoting mutual interests. The rapid improvement of engines and fuels during recent years testifies to the effectiveness of such cooperation. Even so, the possibilities for future improvements are still practically unlimited.

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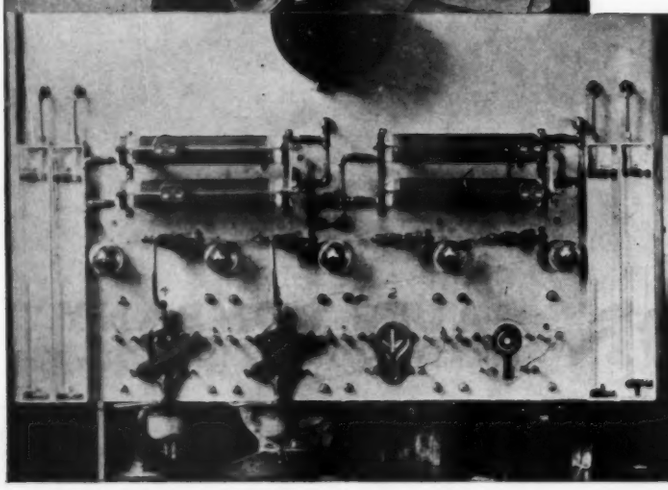

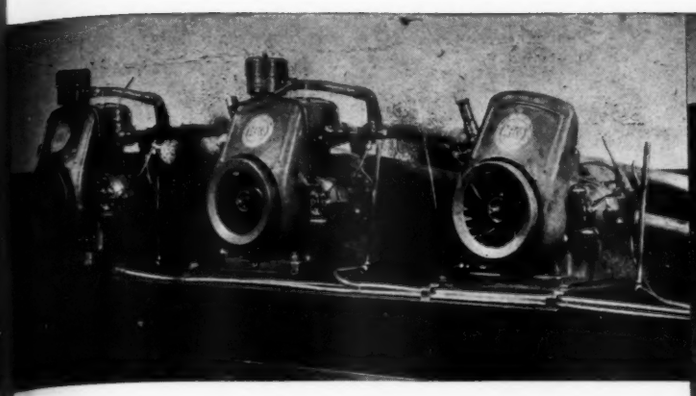

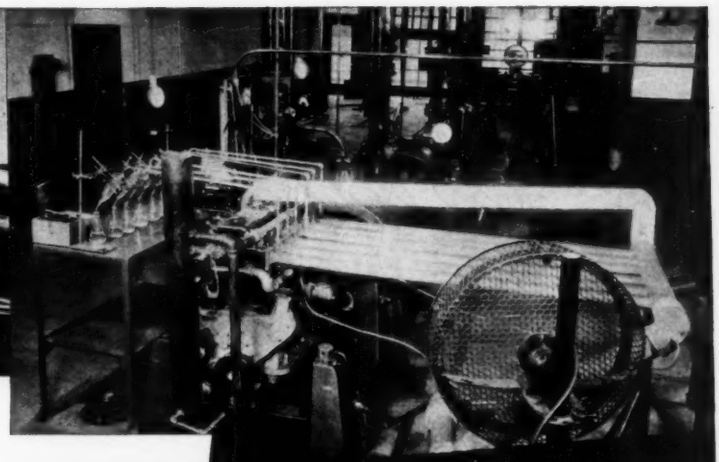

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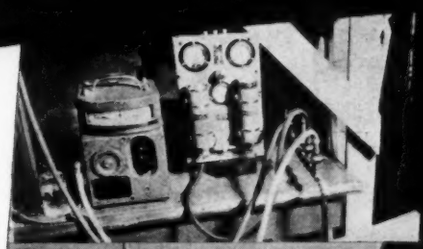

special engines are subjected to test and their performance correlated with fuel characteristics. Research proceeds for the development of engine components able to meet requirements imposed by advances in automotive engineering and petroleum technology. Such work often involves the design and construction of special apparatus. Many projects are conducted in cooperation with one, or perhaps several, other companies in the oil or automotive industry.

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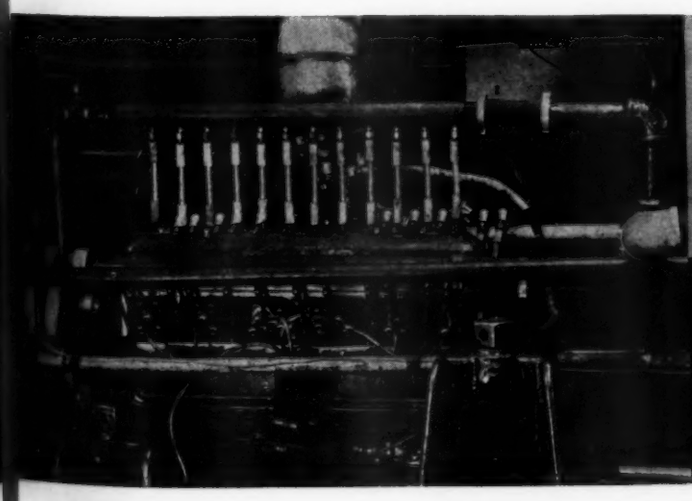

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